Vol. I

EXHIBITS

TRANSCRIPT OF RECORD

(Pages 1 to 1136)

Supreme Court of the United States

OCTOBER TERM, 1946

No. 89

THE UNITED STATES OF AMERICA, APPELLANT,

vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

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THE UNITED STATES OF AMERICA

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

FILED APRIL 18, 1946.

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Exhibit A

AGREEMENT made and entered into this 30th day of July, in the year one thousand nine hundred and twenty by and between THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "PIGMENT COMPANY", and the TITAN CO. A/S, a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter referred to as the "TITAN COMPANY",

WITNESSETH:

WHEREAS, the parties hereto now respectively own and will hereafter own, or have interests in, certain Letters Patent and in applications for Letters Patent of the United States of America or of countries foreign thereto, conferring patent monopolies in the "Licensed Field" as hereinafter defined; and

WHEREAS, each of the parties hereto desires respectively to obtain certain rights and interests under or with respect to the said Letters Patent and applications of the other party in certain countries as hereinafter provided;

NOW, THEREFORE, in consideration of the premises and of the sum of One Dollar, lawful money of the United States, by each of the parties to the other in hand paid, the receipt of which is hereby severally acknowledged, and of the mutual covenants, conditions and agreements hereinafter set forth on the part of the respective parties to be respectively observed and performed, the parties hereto do hereby agree to and with each other as follows:

Exhibit A

1. *Definitions:*

(a) "Licensed Field": By this designation as hereinafter employed is meant to be included all substances, materials, or compositions consisting of or containing above two per cent. (2%) of titanium, or a compound, or compounds, thereof, unless such substances, materials, or compositions contain by weight more than five per cent. (5%) of a metal other than titanium in its purely metallic (i.e. chemically uncombined) state, and also to be included all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances, materials, or compositions in so far as said apparatus, methods, and processes may be employed in the production of said substances, materials or compositions excepting as aforesaid.

(b) "North America": By this designation as hereinafter employed is meant the entire continent of that name including the United States, the Dominion of Canada, Newfoundland, Panama and all Central American States, and including also all islands which are at present considered as being geographically appurtenant to said continent, and also including the Phillipine and Hawaiian Islands.

(c) "South America": By this designation as hereinafter employed is similarly meant the entire continent of that name including all countries therein located to the south of Panama and also all islands which are at present considered as being geographically appurtenant to said continent.

(d) "Finished Article": By this designation as hereinafter employed is meant any artificially produced article, or composition within the "Licensed Field" which has been

manufactured by aid of any process, or apparatus, or both, so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed, or associated, as for example, in paint, rubber, glass, etc.

II. The Pigment Company upon the terms and conditions, including the covenants and agreements, hereinafter specified, agrees to grant to the Titan Company, and the Titan Company accepts therefrom, a license exclusive of all others including said Pigment Company to manufacture, use and sell, or to manufacture or use or sell, but only in or for territories outside of "North America" and "South America", each and every invention, improvement, or subject matter in the "Licensed Field" which is claimed in, or covered by, existing or future Letters Patent granted in any country outside of "North America" and of "South America" and now or hereafter owned or controlled by the Pigment Company, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory within "North America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule A" and made a part hereof, but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

III. The Titan Company upon the terms and conditions, including the covenants and agreements, hereinafter specified, agrees to grant to the Pigment Company, and the Pigment Company accepts therefrom, a license exclusive of all others including said Titan Company, to manufac-

ture, use and sell, or to manufacture or use or sell, but only in or for territories within "North America", each and every invention, improvement, or subject matter in the "Licensed Field" which is claimed in, or covered by, existing or future Letters Patent granted in any country of "North America" as above defined and now or hereafter owned or controlled by the Titan Company, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory outside of "North America" or "South America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule B" and made a part hereof; but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

IV. Each of said Companies hereby (*i. e.* the Titan Company and the Pigment Company) respectively agrees to grant the other a non-exclusive license to use and sell, or to use or sell, each and every subject matter in the "Licensed Field" which is claimed in, or covered by, any existing or future Letters Patent of any country of "South America" and now or hereafter owned or controlled by it, but said license shall not permit the licensee to make any sale directly or indirectly in or for any territory outside of "South America". For greater certainty a list of the said patents and of pending applications for such patents referred to in this Article is hereto attached marked "Schedule C" and made a part hereof, but said list shall not be considered as excluding any Letters Patent or Applications for Letters Patent not included therein.

Exhibit A

V. Each party (Licensee) hereto shall, and hereby does, in consideration of the exclusive license to be to it granted as herein provided, covenant and agree with the other party (Licensor) duly and faithfully to observe and perform each and every of the respective obligations hereinafter in this Article V set forth, viz.:

(a) Either Company, whenever it files in any country or place, an Application for Letters Patent on an invention in the "Licensed Field" or whenever it receives a copy of such an application from a licensee or sublicensee, shall within six months from the date of the filing thereof or upon receiving such copy of an application send a copy thereof to the other Company, and file an Application on the same invention in each country or place included in the territory with respect to which exclusive licenses to the other Company are hereby granted or provided for, in which such application can be filed, and prosecute the same with care and diligence to patent.

(b) Either party hereto may relieve itself of the obligations assumed by it under subdivision "a" of this Article "V" by sending by registered mail to the other party hereto, within two months of the time of the filing by it in any country or place of an Application for Letters Patent on any invention in the "Licensed Field", or immediately upon receiving the same from a licensee or sublicensee, a copy of such application with all papers necessary to permit the filing of an application for Letters Patent on the invention covered thereby in each of the countries or places included within the territory with respect to which an exclusive license to the other party hereunder is hereby granted or provided for, and if possible under the International Con-

vention for the Protection of Industrial Property, and with papers vesting the ownership thereof, as distinguished from a license, in such other party.

(c) Each party hereto shall be charged with the duty of making all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for.

(d) Either party hereto may relieve itself of its obligation to pay any part of the expense of obtaining, defending, maintaining, or prolonging any Letters Patent or Applications for Letters Patent, with respect to which an exclusive license in favor of said party is at the time in force, by delivering to the other party owning or controlling the same a fully and duly executed release of the exclusive license of such party thereunder, in which case the party so renouncing its right shall have a non-exclusive license with respect to the same.

(e) Either party hereto may relieve itself of its obligation to pay its share in the expense of maintaining or defending [redacted] Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party hereto is hereby granted or provided for by delivering to the other party (the exclusive license thereunder) a full, complete, and duly executed assignment of all the right, title, and interest of such party in and to the same.

(f) Either party hereto or any exclusive sublicensee of any of its rights under any patent hereunder shall be entitled at its own expense to bring suit to restrain and to recover damages, penalties, and profits for infringement of a patent in the "Licensed Field" in any territory with

respect to which an exclusive license or sublicense to such party is hereby granted or provided for, and to receive for its own benefit any sums recoverd by such suits, using if necessary, but without recourse, the name of the other party to this Agreement. The other party hereto owning or controlling any patent so sued on shall be notified of said suit immediately upon institution thereof and shall be entitled, if it shall so elect, to intervene at its own expense in such litigation. Any licensee under any such patent may likewise intervene at its own expense in any suit brought to annul the same.

(g) It is understood and agreed between the parties hereto that if either party hereto or a licensee or a sublicensee of either party hereto, shall, in the exercise of its rights in the "Licensed Field" within the territory within which it is licensed, produce, as a by-product, any substance containing titanium or a compound thereof and more than five per cent. (5%) of other metals in a metallic state, such party, licensee, or sublicensee shall have the right to reduce the titanium content of such by-product to less than one-half of one percent. (.5%) by futher treatment and shall have the right to sell and use the by-product so treated notwithstanding any patent or patents of any party hereto.

VI. Each of the said exclusive licenses herein provided for shall and shall therein be expressly stated to be given and accepted, and their continuance dependent, upon the following express conditions:

(a) That the licensee shall never directly or indirectly question, or contest, the validity of any patent under which it is licensed, nor use nor infringe the same except as li-

censed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

(b) 1. The Titan Company shall, in consideration of the thereto exclusive license, pay to the Pigment Company royalty as and in the manner following, viz.:

A royalty for each metric ton of one thousand (1,000) Kilograms, produced by it or its licensees or sublicensees in any calendar year, of titanium dioxide (TiO_2), or its equivalent if other compounds of titanium are produced, as follows:

One hundred and sixty-four Norwegian Kroner and twelve oere (Kr. 164 12/100) for each ton over three thousand (3,000) tons up to and including five thousand (5,000) tons;

One hundred and twenty-three Norwegian Kroner and nine oere (Kr. 123 9/100) for each ton over five thousand (5,000) tons up to and including ten thousand (10,000) tons;

Eighty-two Norwegian Kroner and six oere (Kr. 82 6/100) for each ton over ten thousand (10,000) tons.

No royalties shall be payable on a production of three thousand (3,000) tons or less in any calendar year nor on that part of its production within such calendar year which is greater than twice the production of the Pigment Company and its licensees and sublicensees.

2. The Pigment Company shall, in consideration of the thereto exclusive license, pay to the Titan Company royalty as and in the manner following, viz.:

Exhibit A

A royalty for each metric ton of two thousand two hundred and four (2,204) pounds each, produced by it or its licensees or sublicensees in any calendar year, of titanium dioxid (TiO_2) or its equivalent if other compounds of titanium are produced, as follows:

Forty-four dollars ($44), United States currency, for each ton over three thousand (3,000) tons up to and including five thousand (5,000) tons;

Thirty-three dollars ($33), United States currency for each ton over five thousand (5,000) tons up to and including ten thousand (10,000) tons;

Twenty-two dollars ($22), United States currency, for each ton over ten thousand (10,000) tons.

No royalties shall be payable on a production of three thousand (3,000) tons or less in any calendar year, nor on that part of production within such calendar year which is greater than twice the production of the Titan Company and its licensees and sublicensees.

(N.B. It is understood and agreed that the intent of this section is that no royalty shall be calculated or be payable on or by reason of the reworking or change in form of any titanium compound on the production of which a royalty shall have already been paid under this agreement at the rate stated.)

For the purpose of proper accounting for the royalties herein provided, each party hereto shall keep proper books showing its production and the production reported to it by is licensees and sublicensees, if any, within the "Licensed Field" and shall on or before the last day of February of each year make returns under oath to the other party to whom royalties are payable on such production showing

the amount of such production during the calendar year last preceding and shall within one month from the time of making such return pay any sum which may be due by it for royalties accruing during such last preceding calendar year.

(c) 1. The Titan Company, shall, and hereby does constitute and appoint, and shall hereafter continuously retain, to the exclusion of all others, the Pigment Company as its sole agent, so long as said Pigment Company has an exclusive license hereunder, for introduction and sale in "North America" of all products of the Titan Company in the "Licensed Field", upon such orders of said agent therefor at current European market prices of the Titan Company as the latter shall elect to fill, the same to be sold only in "North America" by said agent at prices and upon terms and conditions to be fixed by said agent. The Titan Company shall not make in or for "North America" any sale or transfer of any of its said products except through its said exclusive agent and as aforesaid.

2. The Pigment Company shall, and hereby does, constitute and appoint, and shall hereafter continuously retain, to the exclusion of all others, the Titan Company as its sole agent, so long as said Titan Company has an exclusive license hereunder, for introduction and sale, outside of both "North America" and "South America", of all products of the Pigment Company in the "Licensed Field" upon such orders of said agent therefor at current American market prices of the Pigment Company as the latter shall elect to fill, the same to be sold only in territories outside of "North America" and "South America" by said agent at prices and upon terms and conditions to be fixed by said agent.

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The Pigment Company shall not make in or for any territory outside of "North America" and "South America" any sale or transfer of any of its said products except through its said exclusive agent and as aforesaid.

(N. B.) Inasmuch as it is the purpose of this Agreement to provide for the widest possible development of titanium products in the "Licensed Field", it is understood and agreed that notwithstanding the agencies created by this clause "(c)", importations into the territory of the agent may be made of "finished articles" in the manufacture of which titanium products produced by the principal or a licensee or sublicensee thereof have been used, as raw material, provided however that the same shall not constitute such an important part of such finished article that its sale within the agent's territory will substantially interfere with said agent's sales of its own said titanium products in its said territory; and each party (principal) agrees that it will, upon receiving notice from the other party (agent) that such importation into its territory of such "finished articles" does interfere with the agent's sales of its own products endeavor to prevent such importation; and each party agrees that it will not sue the other, or any purchaser from, or customer of, direct or indirect, of the other on account of the importation into, or sale and use in, its territory of any such "finished articles" until after six months from the time such notice shall have been given to the other.

(d) The future cost of paying taxes and annuities necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought

to annul or cancel said Letters Patent or any of them, and the future cost of obtaining Letters Patent, as provided for in section "(a)" of Article "V" hereof, shall be equally divided between the Titan Company and the Pigment Company and the party making said payments shall be reimbursed by the other party for its share of said payments within sixty days after the receipt by said other party of a verified statement of account evidenced by proper vouchers.

(e) Each party hereto shall at all times, on request of the other, duly, and with all possible diligence, execute and deliver to said other party any and all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all provisions and obligations of this agreement, and particularly so as regards all licenses therein referred to, and also all patents and the maintenance and enforcement of the latter, and also the preparation, filing and prosecution of the applications for patents.

(f) In the event that either of the parties hereto at any time, or times, violates or neglects performance of any of the conditions hereinabove set forth in this Article "VI", the other party, grantor of its exclusive license, may by registered mail thereto duly addressed notify the delinquent party accordingly. Unless within six months after such mailing of said notice the delinquency has ceased, and satisfaction therefor been made, then in that case the exclusive license hereby granted to the delinquent party may, at the option of the aggrieved party at any time thereafter be terminated by notice to that effect sent by registered mail to the delinquent party by the aggrieved party. But no such termination of license to the delinquent party shall operate to relieve the aggrieved party from its own obli-

gations hereunder, nor terminate its own exclusive license or the sublicenses thereby granted.

VII. Each party hereto agrees that it will cooperate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the "Licensed Field", and will permit the other party by its duly accredited representatives, during business hours, to inspection of and study and inquiry in any of its plants, where work in the "Licensed Field" is being done, exclusive of its research laboratories, provided that neither party shall be obligated to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article "VIII".

VIII. Each party hereto agrees that it will, so far as possible, require its officers, agents and employes to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

IX. Each party hereto agrees that in acquiring rights to inventions within the "Licensed Field" it will, so far as possible, endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

X. Exclusive licenses herein granted or provided for, unless terminated as herein provided, shall extend up to

and including the last day of December 1936, and thereafter for successive periods of ten years each. Said exclusive licenses and this agreement may be terminated by either party hereto by notifying the other party in writing of its desire so to do at least five years before the last day of December, 1936, or at least five years before the expiration of the ten year period then in force. Upon the termination of the exclusive licenses and this agreement in the manner herein provided, each party to this agreement shall then receive for itself and the holders of licenses theretofore or thereafter to be granted by it within its respective territory as aforesaid, a non-exclusive license in the "Licensed Field" under any and all inventions upon which the other party to this agreement shall on the date of such termination have or control Letters Patent or Applications for Letters Patent in the "Licensed Field" in any country or place within such territory, but all other obligations and liabilities hereunder assumed by, and all other benefits resulting herefrom to either party hereto, shall cease and determine upon such date of termination.

XI. Upon the termination of the period in which the exclusive licenses are in force, or upon the rescission of this agreement, the licenses then in force in "South America" shall cease and determine and no further licenses shall be granted therein. The Pigment Company shall have the right on July 1, 1939, if this agreement shall not have been previously terminated as herein provided, to take over "South America" as its exclusive territory on paying the Titan Company for the market the latter has there created.

XII. The interest of either party hereto may be assigned *in toto* but not otherwise and only in connection with

Exhibit A

the transfer of the entire business of such party to any person, firm, association or corporation which assumes the obligations of such party, and this agreement in all respects shall be obligatory, not only upon each of the parties hereto respectively, but also upon their respective assigns, successors and legal representatives.

XIII. It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties, the control of which is held by either party hereto, to the end that the terms of this agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

XIV. Either party shall have the right so long as its exclusive license shall not have been terminated by forfeiture to grant sublicenses hereunder; provided that no party hereto shall grant any license under its own patents, or any sublicense hereunder, in the "Licensed Field" except for the production of titanium or titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sublicensee of one of the parties.

(a) If the license or sublicense is for the production of titanium or titanium compounds on which royalties are to be paid by its Licensor under this contract or for the manufacture therefrom of any product definable by the term "Pigment", and as such utilizable in the composition of any commodity then and in that event each such license or sub-license shall be in writing and shall therein be expressly stated to be given and accepted, and its continuance dependent upon the following express conditions:

Exhibit A

1. To render to its Licensor on or before the last day of January and July of each year true and correct statements under oath as to its production in the "Licensed Field" upon which royalties are payable under this contract by its licensor during the six months preceding the month in which such return is made.

2. To grant to the party to this agreement other than its Licensor its grantable rights to its (the said Licensee's or sublicensees') inventions and under its patent in the "Licensed Field" identical in character, territorial scope and duration to those given by its Licensor to the other party hereto in Articles II or III, and IV hereof.

3. To agree whenever it files an application for a patent in any country on an invention in the "Licensed Field" to send to its Licensor within two months from the date of filing thereof a copy of such application with all papers necessary to permit the filing of an application for such invention in each of the countries or places included within the territory to which licenses are to be granted to the party hereto other than its Licensor, with papers vesting, so far as in its power lies, in such other party a license identical in character, territorial scope, and duration to those granted to such party by this agreement.

4. To assume upon itself the obligations of Article "VI", Section (a) hereof.

5. To appoint the party hereto other than its Licensor its sole agent in the territory of such party in accordance with the conditions set forth in Article "VI", Section (c) hereof.

Exhibit A

6. To agree to assume in respect to its Licensor the obligations assumed by its Licensor in respect to the other party hereto in Article "VII" hereof.

7. To assume upon itself the obligations set forth in Article "VIII" hereof.

8. That if the Licensee or sublicensee violates or neglects performance of any of the conditions above recited to be assumed by it, its Licensor may by registered mail, thereto duly addressed, notify the Licensee or Sublicensee accordingly; and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made, then and in that event the Licensor may, at its option, terminate the license or Sublicense by notice to that effect sent by registered mail to the Licensee or Sublicensee.

XV. Each of the parties hereto agrees that upon breach by any of its Licensees or Sublicensees of any of the conditions of the licenses or sublicenses recited in Article "XIV" hereof that it will take all proper and necessary steps to cancel the license or sublicense and shall thereafter employ all proper means to prevent such Licensee or Sublicensee from infringing the patents in the "Licensed Field" and that it will whenever it grants a license or sublicense in the "Licensed Field" or cancels the same promptly notify the other party hereto, giving him the name and address of the licensee or Sublicensee and information as to the character, scope and duration of the license or sublicense.

XVI. Every sublicensee hereunder of either party shall in the event of any termination of such party's exclusive license hereunder, have the right to obtain from the other

party hereto a license under the patents thereof to which said sublicensee's original license extends, and of the same character and upon the same conditions and covenants as of his said sublicense in so far as the same are set forth in this Agreement between the Titan Co. and the Pigment Company, and upon the additional condition and covenant to pay, in lieu of the royalty, if any, by its said sublicense provided to the said other party as royalty under said license Thirty-three Dollars ($33) of its equivalent, per metric ton of titanium dioxid (TiO_2) or its equivalent, produced by it; provided within six months after such termination the sublicensee delivers to such other party or its execution duplicate instruments of license, setting forth the conditions and covenants prescribed in this Article "XVI" to be contained in said license, and duly executed on its part by said sublicensee as licensee, with the exception that such other party hereto is therein set forth as the licensor instead of said sublicensee's original licensor and as entitled in lieu of the latter to performance of all said terms, conditions and covenants by said sublicensee. Said other party hereto shall within two months after receipt of said duplicate instruments of license execute them on its part, and deliver one thereof to the therein named licensee. In default of said sublicensee's obtainment of its new license from the other party hereto as above set forth all of the said sublicensee's rights under any and every patent of said other party shall absolutely terminate and cease contemporaneously with the termination of the exclusive license hereunder of the party hereto which granted to said sublicensee its orginal sublicense.

XVII. In addition to the several documents granting their said respective exclusive licenses with full recital

Exhibit A

therein of the above conditions and covenants enumerated and set forth in Article "VI" of this Agreement to be signed and acknowledged by both of the parties hereto, the parties shall for purposes of record in the Patent Offices of Bureaus of the respective countries execute and deliver to each other, as from time to time required, confirmatory abridgments of the contents of said licenses which shall contain a specific designation, by date, number, and country, of the Letters Patent under which an exclusive license is thereby granted, the titles of the grantor and licenses companies, and a general statement to the effect that "the said licenses are granted and accepted subject to all the conditions and covenants set forth in a certain Agreement of" stated date (meaning this Agreement) "between the parties".

IN WITNESS WHEREOF, the parties hereto have duly executed these presents in quintuplet the day and year first above written.

Titanium Pigment Company, Inc. Augusta Maine 1916

THE TITANIUM PIGMENT COMPANY, INC.

By WILLIAM F. MEREDITH,
President.

THE TITAN Co. A/S

By G. JEBSEN (Signed)
Attorney in fact.

Attest:

J. D. MEREDITH,
Secretary

THE TITAN Co. A/S

By G. JEBSEN,
Attorney in fact

Exhibit A-1

AGREEMENT made and entered into this 30th day of July in the year one thousand nine hundred and twenty by and between the NATIONAL LEAD COMPANY, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, hereinafter referred to as the "LEAD COMPANY", THE TITANIUM ALLOY MANUFACTURING COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "ALLOY COMPANY", THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter referred to as the "PIGMENT COMPANY", and the TITAN CO. A/S, a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter referred to as the "TITAN COMPANY",

WITNESSETH:

WHEREAS, the TITAN COMPANY has this day made and entered into a certain agreement in writing bearing even date herewith with the PIGMENT COMPANY wherein and whereby among other things the PIGMENT COMPANY and the TITAN COMPANY agree to grant to each other licenses under certain Letters Patent within the "Licensed Field" therein defined as follows:

> "Licensed Field": By this designation as hereinafter employed is meant to be included all substances, materials, or compositions consisting of or containing above two per cent. (2%) of titanium, or a compound, or compounds, thereof, unless such substances, materials, or compositions contain by weight more than five per cent. (5%) of a metal

other than titanium in its purely metallic (*i. e.* chemically uncombined) state, and also to be included all apparatus, methods, and processes useful in the obtainment or manufacture or use of said substances, materials, or compositions, in so far as said apparatus, methods, and processes may be employed in the production of said substances, materials, or compositions excepting as aforesaid.

NOW, THEREFORE, in consideration of the premises and of the sum of one dollar, lawful money of the United States, to each of them in hand paid by the PIGMENT COMPANY and the TITAN COMPANY, and other good and valuable considerations, the receipt of which is hereby acknowledged, the LEAD COMPANY and the ALLOY COMPANY each agrees for itself and its subsidiary corporations that, in so far as in its power lies, it will on its part fully respect the said agreement between the TITAN COMPANY and the PIGMENT COMPANY and that so long as any exclusive licenses remain in force under said agreement it will not against the TITAN COMPANY or the PIGMENT COMPANY or any successor in interest of either of them question or contest the validity of any of the Letters Patent covered by said agreement and will not infringe the same or afford any assistance to any one in questioning or contesting the validity thereof and will not do any other act in derogation of said agreement and will promptly communicate to the PIGMENT COMPANY the results of any experience gained or knowledge acquired by it within the "Licensed Field", and will promptly assign to the PIGMENT COMPANY throughout the world any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be ac-

quired by it, and will, in so far as possible, require its officers, agents and employees to agree to assign to itself throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them.

IN WITNESS WHEREOF, the parties hereto have duly executed these presents the day and year first above written in quintuplet.

NATIONAL LEAD COMPANY

By NORRIS B. GREGG

Vice President

SEAL

Attest:

CHARLES DAVISON

Secretary

THE TITANIUM ALLOY MANUFACTURING COMPANY

By WILLIAM F. MEREDITH

President

SEAL

Attest:

J. D. MEREDITH

Secretary

Exhibit A-1

THE TITANIUM PIGMENT COMPANY, INC.

By WILLIAM F. MEREDITH

President

SEAL

Attest:

J. D. MEREDITH

Secretary

TITAN CO. A/S

By G. JEBSEN

Attorney-in-Fact

Exhibit A-2

THIS AGREEMENT made and entered into this 30th day of July in the year one thousand nine hundred and twenty by and between THE TITANIUM ALLOY MANUFACTURING COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Maine, hereinafter called the Alloy Company, and TITAN COMPANY A/S., a corporation organized and existing under and by virtue of the laws of the Kingdom of Norway, hereinafter called the Titan Company,

WITNESSETH

WHEREAS on even date herewith a certain agreement has been entered into by and between THE TITANIUM PIGMENT COMPANY INC., a corporation of the State of Maine, and hereinafter called the PIGMENT COMPANY, and the Titan Company covering inventions in titanium in the "Licensed Field" described in the said agreement and concerning certain United States and foreign Letters Patent covering the same; and

WHEREAS the Alloy Company is a stockholder of the Pigment Company and was a party to the negotiation of said agreement and the said agreement was made on the promise of the Alloy Company to execute this agreement;

NOW, THEREFORE in consideration of the promises and of the sum of one dollar paid to the Alloy Company by the Titan Company, the receipt of which is hereby acknowledged, the Alloy Company agrees with the Titan Company as follows:

I. The Alloy Company agrees that it will so far as possible in acquiring rights to inventions in the "Licensed Field" endeavor to provide that such rights shall extend

Exhibit A-2

to all countries or places within the territory with respect to which any license has been granted or provided for under said agreement of even date herewith.

II. The Alloy Company further agrees on its part to fully respect the said agreement of even date herewith and not to do any of the acts prohibited to the Pigment Company in said agreement, and to do all other acts and things which are on its part necessary and proper to enable the Titan Company to enjoy the rights and privileges in the matters and things covered by this agreement to the same effect as though particularly covered by the agreement of even date herewith.

IN WITNESS WHEREOF the parties hereto have caused their names to be signed and their seals affixed by their proper officers duly empowered thereto by their respective Boards of Directors this day of ~~July,~~ 1920.

THE TITANIUM ALLOY MANUFACTURING COMPANY

By WILLIAM F. MEREDITH (Sg.)
President

Attest:

J. D. MEREDITH (Sg.)
Secretary

THE TITAN CO. A/S.

By G. JEBSEN (Sg.)
Attorney in Fact

Exhibit A-2

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

On this 30th day of July, nineteen hundred and twenty before me the undersigned, a notary public duly commissioned and sworn and duly authorized to administer oaths and take acknowledgments of deeds, came William F. Meredith, President, and Joseph D. Meredith, Secretary, of the Titanium Alloy Manufacturing Company, who, by me being duly sworn, and each to me personally known, did each depose and say that they are respectively the said William F. Meredith who resides at Princeton, New Jersey, President, and the said Joseph D. Meredith, who resides at Greenwich, Connecticut, Secretary of the said The Titanium Alloy Manufacturing Company, the corporation described in and which executed the foregoing instrument; that they know the seal of said Company and that the seal affixed to the foregoing instrument is the corporate seal of the said Company, and was affixed by order of said company and they signed their respective names thereto, the said William F. Meredith as President, and the said Joseph D. Meredith as Secretary by the said order, and I having made known to them the contents of the foregoing instrument they severally acknowledged the execution thereof to be their free and voluntary act and deed and the free and voluntary act of said company for the purposes therein set forth. And I certify that they are personally known to me to be the persons they are above described to be and who executed this instrument.

S. E. STEVEN. (Sg.)
Notary Public, Rockland Co., N. Y.
Cert. filed in N. Y. Co. 412
Register's Certf. N. Y. Co. 2363
Comm'n Expires March 30, 1922.

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Exhibit A-2

STATE OF NEW YORK }
COUNTY OF NEW YORK } ss.:

On this 30th day of July in the year one thousand nine hundred and twenty before me personally came GUSTAV JEBSEN, to me personally known to be the individual described in, and who executed the foregoing instrument, and to me known to be the attorney in fact of the TITAN Co. A/S. the corporation described in, and which, by its said attorney in fact, executed the same, and acknowledged that he executed said instrument, as the act and deed of the said TITAN Co. A/S, by virtue of a written power of attorney dated the 16th day of March 1920, and exhibited to me.

S. E. STEVEN (Sg.)

Notary Public, Rockland Co., N. Y.
Certf. filed in N. Y. Co., 412
Register's Certf. N. Y. Co. 2363
Comm'n Expires March 30, 1922.

Exhibit A-2

THE TITANIUM ALLOY MANUFACTURING COMPANY

PROPOSED RESOLUTION OF DIRECTORS

The President submitted to the meeting a form of contract between the Titanium Alloy Manufacturing Company, and Titan Co. A/S., a corporation organized and existing under the laws of the Kingdom of Norway, relating to a form of contract of even date between the Titanium Development Company, Inc. and Titan Co. A/S.

On motion duly made and seconded, the following resolution was unanimously adopted:

RESOLVED, that the form of contract between this company and Titan Co. A/S., as presented to this meeting, be, and the same hereby is adopted and approved and ordered identified by the signature of the Secretary and filed with and as a part of the minutes of this meeting.

RESOLVED, further, that the proper officers of this company be and they hereby are authorized and instructed, in behalf of and in the name of the company, to execute said contract in the form presented to this Board and approved at this meeting to affix the corporate seal thereto, to acknowledge the same and to deliver the said contract so executed to said Titan, Co. A/S, upon receipt of a counterpart of said contract duly signed, acknowledged an executed by said Titan Co. A/S.

I, Joseph D. Meredith, Secretary of The Titanium Alloy Manufacturing Company, hereby certify that the foregoing is a true copy of a resolution this day passed by the Board of Directors of the said Company at a meeting duly called and held for the purpose.

Dated, New York, July 30th, 1920.

JOSEPH D. MEREDITH (Sg.)
Secretary

(SEAL.)

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Exhibit B

TRANSLATION

Fredrikstad, March 3d, 1927.

Société Industrielle du Titane
154 Boulevard Haussmann
Paris.

Sirs,

With reference to the Protocol of May 1st, 1925, of which you are aware, concerning the constitution of your organization, between

LA SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE,

LA SOCIETE DES PRODUITS CHIMIQUES DE L'OUEST,

and our Company, on one hand,

and The Group directed by Mr. André VINCENT, on the other hand, we are reminding you briefly in this letter of the situation of our Company with respect to patents for the development of the titanium industry and the conditions which have surrounded the constitution of your Company, and we are confirming to you our approval of the granting of licenses, as specified below.

In order to simplify the reading of the different articles, we refer to your organization by the abbreviation "SOCIETE" and to ours by the abbreviation "TITAN".

TITAN has at its disposal acquired methods, patents, and experience relating to the manufacturing and exploitation of titanium products, especially pigments for paint. Furthermore, TITAN concluded, on July 30, 1920, with THE TITANIUM PIGMENT COMPANY, Inc., a corporation of the State of Maine, U. S. A., a contract designated hereafter as "The

Exhibit B

Agreement of 1920", of which one copy is attached to the present convention, and according to the terms of which TITAN is granted for France and a number of other countries, the use, under definite conditions, of patents, methods, and experience acquired by the TITANIUM PIGMENT COMPANY.

TITAN through its organization in FREDRIKSTAD, Norway, has itself improved said acquired methods, patents, and experience to the extent thus far indicated. However, TITAN wishes to develop this industry, in France as well as in other countries, through enterprises which would use the said acquired methods, patents and experience, while at the same time, collaborating with TITAN toward the progressive development of this industry.

The SOCIETE, whose aim is to develop in France, its colonies and other territorial possessions, an industry for the manufacture and exploitation of titanium and titanium compounds, on the basis of an agreement between TITAN, on one hand, and the SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRÉSILIENNE and the SOCIETE DES PRODUITS CHIMIQUES DE L'OUEST, on the other, wishes to obtain exclusive right for France, its colonies and other possessions, to exploit said acquired patents, methods and experience, which TITAN has at its disposal for those countries, all of which would be in collaboration with TITAN for the progressive development of the said industry.

Definitions

a. License field
b. North America
c. South America
d. Finished article

Exhibit B

For the meaning of these expressions in the present convention, the definition given shall be that applied to each of these expressions in Article I of the Agreement of 1920.

e. France—By France is meant in the present convention, the territory of the French Republic, including colonies, dependencies, protectorates, and countries where France is mandatory agent, according to the peace treaty, with the exception, however, of what is geographically appertinent to the territories which are embraced within the aforesaid definitions, of "North America" and "South America".

f. TITAN's territory—by this is meant all countries not conforming to above definition of "France".

g. Allied companies—by this is meant all enterprises (other than the SOCIETE, TITAN, TITANIUM PIGMENT CO., and licensees for the latter's territories), who have acquired or who will acquire a license of the nature foreseen in Article XIV, paragraph A of the Agreement of 1920.

—II—

According to the conditions hereinafter specified, TITAN agrees to grant the SOCIÉTE, who accepts it, a license under all acquired patents, methods, and experience, which TITAN possesses and will possess during the period of the present convention within the "Licensed Field" for France.

The license covers the exclusive right to manufacture and exploit any invention, improvement of all that is within the "Licensed Field" for France, as well as the exclusive right in France to sell any product manufactured by means of these inventions and improvements, except:

a)—merchandise falling under the heading "finished article" for which the license is non-exclusive (see article III below).

b)—The right obtained from TITAN by PINCHIN JOHNSON & Co. LTD. of LONDON, to obtain supplies in France, for the manufacture by that Company or by concerns controlled by it, of titanium base articles, but this organization will be able to sell them only as manufactured articles.

On the other hand, the SOCIETE's customers in France —though not the SOCIETE itself—will have the right to sell without objection on the part of TITAN, all products described as "finished articles"—this also outside of France, as set forth in the provisions of the Agreement of 1920, relative to the sale by customers of "finished articles" from North and South America.

—III—

The SOCIETE agrees to grant to TITAN, who accepts it, upon the conditions hereinafter specified, a license for TITAN's territory, under patents, methods, and experience which the SOCIETE possesses or will possess during the period of the present convention within the "Licensed Field". The license includes the exclusive right of manufacture and of exploiting every invention and improvement relating to the "Licensed Field" for the territory of TITAN, as well as the exclusive right to sell within this territory all products produced by means of such inventions and improvements. However, for products coming under the definition of "finished article" the license is not exclusive, save for North America and possibly eventually South America where it is exclusive.

Exhibit B

On the other hand, customers of TITAN and its associated companies, but neither TITAN itself nor its associated companies, also will have the right to sell in France without objection on the part of the SOCIETE all products coming under the definition of "finished article". The Marine Company of TITAN will be considered as one of the customers of TITAN as to materials for maritime use.

Should TITAN so request, the grant of SOCIETE's exclusive license under a patent or patent application will be made directly to such associated companies as may be designated by TITAN, and such request may be made by TITAN for one or more countries, and for one or more or all patents and patent applications, within the territory of TITAN and of TITANIUM, except France.

—IV—

The SOCIETE undertakes, notwithstanding the provisions of Articles II and III above, not to sell, directly or indirectly, for or to be destined for TITAN's territory, any invention, improvement or anything relating to the "Licensed Field"; TITAN on its behalf undertakes not to sell directly or indirectly for or to be destined for France such inventions, improvements or anything relating to the "Licensed Field".

SOCIETE and TITAN mutually undertake to impose, within reasonable limits, upon their customers, the obligation set forth in the preceding paragraph.

In case TITAN should give its consent, in the event such situation should arise, and notwithstanding the provisions of Articles II and III above, to permit the SOCIETE to sell for or to be destined for the territory of TITAN, any product coming under the definition of "Licensed Field", such

sale should be made through TITAN as intermediary who is henceforth designated as the exclusive agent of the SOCIETE and will remain as such for so long as the SOCIETE will hold from TITAN, or TITAN holds from the SOCIETE, an exclusive license according to the present convention. For North America, and possibly South America, in the event that the TITANIUM PIGMENT COMPANY should take over this latter as its exclusive territory, according to the Agreement of 1920, Article X, the SOCIETE in that case will designate the TITANIUM PIGMENT COMPANY as its exclusive representative according to the Agreement of 1920, Article VI (c), it being understood that the SOCIETE will deal with this representation only through TITAN as intermediary in the same manner that its own sales require the consent of TITAN. For all other countries which are part of its territory, TITAN may require the SOCIETE to choose, in place of TITAN, as its exclusive agent an associated company holding an exclusive license from TITAN for the country under consideration.

The SOCIETE is required only to fill such orders from its agent as it will agree to fill, it being understood that the agent will determine the sales price and conditions for the resale made by it as intermediary.

Notwithstanding the provisions of Articles II and III above, in case the SOCIETE should consent to permit TITAN to sell for or to be destined for France any product coming under the definition of "Licensed Field", such sale shall be made through the SOCIETE as intermediary, which is henceforth designated as TITAN'S exclusive agent for France, and will remain so for so long as the SOCIETE will hold from TITAN or TITAN holds from SOCIETE, an exclusive license according to the present convention. TITAN

will be expected to fill only such orders of the agent as the seller will accept, it being understood that the SOCIETE itself will decide on sales prices and conditions for any resale made through it as intermediary according to agreements existing at any period, if there are any, between TITAN and the SOCIETE.

Although the above Articles II and III permit the customers of TITAN and SOCIETE freely to sell products definable under the term "finished article", the two companies will have to see to it that their respective customers do not compete with one or the other in their respective markets and if one of the companies becomes aware of such competition from a customer of the other company, the latter should take the necessary measures to prevent the customer from continuing such competition. It seems impossible precisely to envision the measures for the application of this principle, but periodic conferences will take place between the two parties for the purpose of examining market conditions and to discuss the measures to be taken.

—V—

Both contracting parties assume the following engagements.

a) Upon applying for a patent application for an invention within the "Licensed Field" to send a copy thereof to the other party within two (2) months from the date of filing and to file applications in each country constituting a part of the territory of the other party, and wherever this is done to do everything possible in the prosecution of the application until the issuance of the patent.

If TITAN or the SOCIETE receive similar papers from one of their sublicensees, TITAN and the SOCIETE will re-

ciprocally transmit them within one month from the date of reception accompanied by executed documents or annotations of transfer.

b) Both contracting parties may relieve themselves of the obligations set forth under (a) when remitting to the other party copy of the patent application within two (2) months from the date of filing or with one month after having received it from an associated company together with all necessary documents in order that such application may be filed in each country constituting a part of the territory of the other contracting party together with all papers, drawn if possible according to the International Convention for the Protection of Industrial Property, necessary to transfer the property to the other party. Upon request of TITAN, the SOCIETE will deliver transfer documents in the name of associated companies.

c) Each contracting party agrees in due time to make all legal payments necessary for the maintenance or renewal of patents owned by it or otherwise at its disposal, under which patents the other party or associated companies have an exclusive license, according to the present convention. As concerns North America and possibly eventually South America in the event the TITANIUM PIGMENT COMPANY should take over the latter as its exclusive territory under the provisions of the Agreement of 1920, Article XI, TITAN will have the right to make such payment in the name of the SOCIETE and to be reimbursed by the latter after each such payment is made, and the SOCIETE is under the obligation to inform TITAN in due time of any expirations in order to enable TITAN to make payments without difficulty in the regular way within the required time of any payments becoming due.

d) Each contracting party may avoid paying any part of the cost of obtaining, prosecuting, maintaining, or renewing any patent or patent application under which it holds an exclusive license by submitting to the other party wh has disposed of the exclusive license, as owner, or otherwise, a formal concession renouncing its exclusive license conforming to the law of exclusive licenses, in which case the first party will receive a non-exclusive license.

In the situation where the party who owns the patent or who has the disposition of it is an associated company of TITAN, the concession relinquishing the exclusive license is to be submitted to TITAN and not to the owner of the patent.

e) Each contracting party may relieve itself of the obligation to contribute its share of the cost of maintenance or of the defense of any patent which it owns or which it has at its disposal and under which the other party, or a company, or companies, allied to it have obtained, or will have the right to obtain, an exclusive license by transmitting to the other party a transfer document in good and due form of all of the rights relative thereto of which the party making the transfer has in its possession.

f) TITAN shall have the right to decide upon, and in its own name to carry on at its own expense, all actions or legal measures which TITAN may deem necessary or desirable in order to protect against attack any patent under which an exclusive license has been granted, or duly obtained according the present convention. If TITAN does not desire to carry on any such judicial action in its own name but if the SOCIETE requests this, TITAN will be obligated to proceed upon the condition that the SOCIETE furnish TITAN a sufficient guarantee for the expenses and responsibilities which TITAN may encounter by reason of such action or judiciary measure

undertaken in its name. TITAN shall advise SOCIETE of any such action or measure, and the SOCIETE shall then have the right to participate therein on its account.

g) Similarly, the SOCIETE will have the right to decide upon, and in its own name, to proceed with, at its own expense, any action or judicial measure with the object of protecting any patent under which an exclusive license has been granted, or duly obtained according to the present convention. If so, all expenses relative thereto will be the responsibility of the SOCIETE. If the SOCIETE does not desire to undertake such action, or measure, in its own name, but TITAN requests it, the SOCIETE will have to comply with this request, upon the condition that TITAN furnish the SOCIETE sufficient guarantee for all expenses and responsibilities which the SOCIETE may encounter by reason of such action or judicial measure undertaken in its name. The SOCIETE shall advise TITAN of any such action or judicial measure and TITAN will then have the right to participate therein on its own account.

h) It is understood between the two contracting parties that in case either party should undertake, in the course of the exploitation within their respective territories of its rights within the "Licensed Field", to manufacture as secondary products, titanium compositions or titanium compounds having more than 5% of other metals in the metallic state, the producer will have the right to reduce the content of titanium to less than 0.5% by means of a second treatment and to sell or to improve said secondary products, notwithstanding the patents at the disposal of either party, or of an associated company.

Exhibit B

—VI—

Every exclusive license foreseen by the present agreement will be granted and accepted upon the following special conditions which likewise regulate the maintenance of all licenses and mention of these conditions will have to be inserted in each license agreement:

a) That the licensee shall never contest or oppose any patent under which it has a license nor use it otherwise than as a licensee, nor attack it, nor lend aid or assist financially or otherwise any one opposing any such patent or contesting its fundamental value or validity.

b) That the SOCIETE undertakes the engagement to pay to TITAN, net, free of any tax a royalty of 148.09 Norwegian Crowns per metric ton of TiO_2 produced by the SOCIETE or by any producer obtaining from the SOCIETE a license within the calendar year, or its equivalent in weight of TiO_2 in the event other titanium compositions are produced.

In connection with the exercise of this right of royalty, TITAN shall have the right to verify or to have verified by such representative as it may designate, the production of the factories of the SOCIETE and of every licensee within the territory of the SOCIETE.

c) That the licensee must discharge its obligations according to Article IV, paragraphs (a) and (c) above concerning sales and the designation of an agent.

d) That all charges pertaining to the payment of taxes and of annuities for the maintenance and renewal of a patent under which an exclusive license is granted or expected to be granted according to the present convention,

as well as all future charges pertaining to obtaining a patent as foreseen under (a) of Article V shall be divided equally between the parties and that the party who shall make the payment in advance will be reimbursed by the other party for its share within 60 days after the receipt of a certified account of its expenses.

e) That each party will make at all times, upon request made by the other party, with all diligence to execute and deliver to the latter party all papers or documents, and attend to all necessary accounts, with the view fully to carry out the arrangements and obligations of the present agreement and more specially of anything which pertains to licenses and patents and their maintenance as well as the preparation and filing of patent applications and the attention these require.

f) In case of failure or neglect by one of the parties to the provisions of the present article, the other party shall have the right to point this out to said party by registered letter. If such neglect or omission has not been rectified and repaired within six months from the date such notice was sent, the injured party may whenever it chooses declare the exclusive license null and void by registered letter addressed to the other party. Such declaration of nullity will not relieve the other party of its obligations nor suspend the exclusive licenses of the injured party.

g) That the SOCIETE as a retro-licensee shall undertake toward the TITANIUM PIGMENT COMPANY all of the obligations contained in article XIV, paragraph (a) of the Agreement of 1920 and this even in the event that these obligations for the SOCIETE do not coincide with the other provisions of the present convention.

Exhibit B

—VII—

Each party agrees to cooperate with the other in furnishing a complete semi-annual, exact and detailed report concerning experience acquired and information obtained since the last report, applicable or relating to the "Licensed Field" and will permit the other party to proceed, through its authorized representative with inspections, studies or researches in all of its factories working within the "Licensed Field" except testing laboratories; however, it will not be obligated to accord this privilege to any one who has not undertaken by his signature to assign all his inventions in conformity to Article VIII.

—VIII—

Each contracting party undertakes to impose within reasonable limits upon its managers, associates, representatives and employees the obligation to assign for all countries, their inventions within the "Licensed Field" which may have been made by them or by one of them prior to the date set for the expiration of the exclusive license or any prolongation of the same.

—IX—

Each of the parties undertakes to endeavor, when acquiring patent rights within the "Licensed Field", within reasonable limits to make the other party a beneficiary also thereunder.

—X—

The exclusive licenses constituting the object of the present convention will remain in force until December 31, 1941 inclusive, and shall continue thereafter for 10 year periods unless terminated as herein provided.

of TITAN and of the SOCIETE shall stand as they are established in the present convention.

In the event that the Agreement of July 30, 1920 between TITAN and the TITANIUM PIGMENT COMPANY and the exclusive licenses granted under said contract should terminate before the present convention, the SOCIETE shall be entitled after the termination of the Agreement of July 30, 1920 only to non-exclusive licenses under patents and patent applications under which it was at the time of the termination of said contract the recipient of an exclusive license as well as that which flows from the said contract, and, if TITAN expresses the desire, the SOCIETE shall be obligated to withdraw the exclusive license it may have granted to TITANIUM PIGMENT COMPANY and in their place to give a non-exclusive license, conforming to the terms of Article X of the said agreement and to transfer to TITAN the exclusive right of license, save the restriction resulting from the license granted to TITANIUM PIGMENT COMPANY.

The renunciation of the Agreement of July 30, 1920 between TITAN and TITANIUM PIGMENT COMPANY will not in any way affect the rights and obligations of TITAN and the SOCIETE with respect to the reciprocal exclusive enjoyment of their patents until the end of December, 1941, and all 10 year extensions of the present convention.

—XI—

If TITANIUM PIGMENT COMPANY exercises its option accorded it under the Agreement of July 30, 1920 to appropriate South America as its exclusive territory, the SOCIETE will have to undertake for this territory the same relationship toward TITANIUM PIGMENT COMPANY which applies for that which concerns North America.

Exhibit B

The exclusive licenses of the present convention may be renounced by either party upon written notice addressed to the other party at least six years before the 31st of December, 1941, or before the expiration of any subsequent ten year period.

In the event that the exclusive licenses and the present convention shall become terminated in this manner, each of the parties and all recipients of licenses in its territory, those possessing a license at the time of the termination of the convention, as well as those who subsequently will acquire a license from one of the parties within its territory, or of any part of its territory, according to the preceding definitions, will become possessed of a non-exclusive license within the "Licensed Field" with respect to all inventions, which, at the termination of the convention the other party should own or have at its disposal under patents or patent applications within the "Licensed Field" in any country or locality included within said territory, it being understood that all other conditions, obligations and rights under the present convention will be terminated upon the expiration of the above mentioned period.

If one or more associated companies renounce their agreements with TITAN the latter in its turn will have the right to renounce the licenses which TITAN or alternately the SOCIETE may hold from the associated company which renounced its contract.

The SOCIÈTE and the renouncing company will then have the right and the obligation to consent to and mutually to accept a non-exclusive license, unless transfer of said license is made by TITAN to the party, according to what has been agreed above between TITAN and the SOCIETE, but as for the remainder, the mutual rights and obligations

Exhibit B

—XII—

Each contracting party has the right to assign but only in its entirety, its interests in the present convention together with the transfer of its entire business, persons, buildings or companies assuming the obligations of the party in question and the present convention shall apply in all respects not only to both parties but also to their respective successors and legal representatives.

—XIII—

It is understood that the obligations undertaken by both parties under the present convention shall extend and shall apply to all subsidiaries and branches which either party shall control so that the provisions of the present agreement cannot be avoided by the existence or the creation of subsidiaries or branches.

—XIV—

For all territories outside of France, the SOCIETE shall not have the right to grant any licenses under any patent at its disposal as owner or otherwise, or under which it is the recipient of an exclusive license, according to the present convention, which licenses (or alternatively, sublicenses) do not make of the licensee (or alternatively, retro-licensee) an associated company within the terms of Article I, paragraph (g) of the present convention. The SOCIETE will always be obligated when granting such a license (or alternatively a sub-license) to impose upon the licensee (or alternatively, retro-licensee) all obligations assumed by the SOCIETE itself under the present convention as to selling and the designation of agents outside of France.

Exhibit B

As to licenses (or alternatively, sub-licenses) which would make of the licensee (or alternatively, retro-licensee) an associated company within the terms of Article I, paragraph (g) of the present convention, the SOCIETE shall not have the right to grant it for France or any part of France without the formal and previous explicit consent of TITAN, and TITAN engages never to permit its consent to depend on conditions tending to assure economic advantages to TITAN other than or superior to those to which it is entitled under the present convention.

—XV—

TITAN gives gratuitously to the SOCIETE the use of the mark "KRONOS" which the SOCIETE shall use.

However, the SOCIETE will only have the right to use it for qualities equal or superior to the mark "STANDARD" which TITAN currently produces.

If an inferior quality should be sold, this can only be done under another mark adopted by the SOCIETE.

We beg you to give your accord to the preceding and receive our best regards.

p.p. TITAN Co. A/S

(signed) G. JEBSEN

Exhibit C

1. I. G. and Titan Co. A/S—agreement to agree.
2. Same parties—form new company—Titangesellschaft.
3. License whereby I. G. gave patent to Titangesell.
4. License between Titan Co. A/S and Titangesell.
5. Agreement between Gesell. and I.G.—for rent, gas. etc.
6. Between Gesell. and I.G. I. G. takes supply of titanium product from Gesell.
7. Between Gesell. and I. G. Sales thru I. G.
8. Gesell. and Titan Co. A/S. A/S supplies Gesell. with ore.

A.

AGREEMENT BETWEEN THE TITAN CO. AND THE J. G.

The Titan Co. A. S. in Fredrikstad, Norway, (hereinafter referred to as "Titan Co.") and the J. G. Farbenindustrie Aktingesellschaft, Frankfurt a.M. (hereinafter referred to as "J.G.") have arranged to cooperate together in the field of the manufacturing and the sale of titanium and titanium compounds. By titanium compounds are understood such substances, materials and compositions which contain 2% or more of the element titanium in a chemically or physically combined state. For the common work the following principles have been agreed:

No. 1

According to the agreement (B) annexed hereto the parties formed a company with limited liability under the name "T-tangesellschaft m.b.H." (hereinafter referred to as "Titangesellschaft").

Exhibit C

It is agreed that always an even number and not less than four managers have to be appointed for the Titangesellschaft and that the Titan Co. and the J. G. has to nominate each the half part of these.

It is intended that the factory which is to be installed by the Titangesellschaft shall produce at first a quantity of 2500 tons of TiO_2 per annum.

In order to obtain a uniform taking care of the interests of both parties a committee is formed, which has to point out the principal lines of management to the managers of the Titangesellschaft. The committee consists of two persons, namely Dr. Jebsen and Dr. Kuhne. A substitute will be named for each of them viz. by the Titan-Co. for Dr. Jebsen and by the J. G. for Dr. Kuhne.

No. 2

Both parties assume the obligation to have the titanium compounds for sale in the following countries exclusively manufactured by the Titangesellschaft and to cover their total requirement of titanium compounds in Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia, Croatia-Slavanoa, Bulgaria, Greece, Turkey, Japan, China and Spain exclusively from the Titangesellschaft.

No. 3

According to an agreement (C) annexed hereto made between the J. G. and the Titangesellschaft, the J. G. brought into the Titangesellschaft all their processes in the field of the production of titanium compounds which it has at

present and may have in the future by granting an exclusive license under the respective patents for all countries.

No. 4

According to an agreement (D) annexed hereto and made between the Titan Co. and the Titangesellschaft, the Titan Co. brought into the Titangesellschaft all their processes in the field of production of titanium compounds, which it has at present and may have in the future by granting an exclusive license under the patents for the business territory of the Titangesellschaft. The Titan Co. assumes the obligation to communicate and to disclose to the Titangesellschaft for its manufacturing all experiences and facilities in the field of manufacturing, which it has at its disposal at present.

No. 5

According to a further agreement (E) annexed hereto and made between the J. G. and the Titangesellschaft the J. G. rented a factory-building with ground situated in Wiesdorf-Leverkusen and to be placed at disposal immediately, and assumed the obligation to put at the disposal of the Titangesellschaft steam, gas, water and electricity for its factory and the transportation facilities for its operations.

No. 6

According to a further agreement (F) annexed hereto and made between the J. G. and the Titangesellschaft the Titangesellschaft assumed the obligation to cover its entire requirements of products exclusively from the J. G. and the J. G. assumed the obligation to supply such products to the Titangesellschaft.

Exhibit C

No. 7

According to a further agreement (G) annexed hereto and made between the J. G. and the Titangesellschaft the latter appointed the J. G. its exclusive selling agent for its total production in the business field of the Titangesellschaft excepting the products which are to be supplied to the Titan Co. according to the Par. 9 hereunder.

No. 8

According to a further agreement (H) annexed hereto and made between the Titan Co. and Titangesellschaft the Titan Co. assumed the obligation to supply one to the Titangesellschaft and the Titangesellschaft assumed the obligation to cover its requirements of ore from the Titan Co.

No. 9

According to a further agreement (J) annexed hereto and made between the Titan Co. and the Titangesellschaft the Titangesellschaft assumed the obligation to supply to the Titan Co. on its request its products at the prices fixed in this agreement.

No. 10

The processes which are brought into the Titangesellschaft by the J. G. and those processes which are invented by the Titangesellschaft are to be put gratuitously at the disposal of the Titan Co. respectively its sublicensees by the Titangesellschaft for being exploited in the territory which not belongs to the Titangesellschaft.

Exhibit C

No. 11

The J. G. is obliged, in the interest of the Titan Co. respectively of its sub-licensees, to refrain from every interest in the field of the production and the sale of titanium compounds outside the Titangesellschaft.

No. 12

The J. G. is further obliged, in case it invents a process or is in possession of a process or has at its disposal a process which includes the use and application of titanium compounds by granting licenses under the patent of such a process to impose the obligation on the licensee to cover his requirement of titanium compounds exclusively from the Titan Co. or its licensees or sub-licensees for the country in question respectively from the Titangesellschaft.

No. 13

The obligations assumed by the J. G. according to Par. 11 and 12 cease when the partnership-contract (B) made as per Par. 1 hereunder is changed regarding the interest of the parties in such a manner that a partner transfers all his interest according to Par. 3 of the partnership contract. However, a transfer of the Titan Co.'s interest which is made in exercising its right granted to it in Par. 5 of the partnership-contract is not to be considered such a changement.

No. 14

The Titan Co. is entitled to substitute for itself in this agreement and in the agreements which the Titangesellschaft mentioned hereunder in Par. 4 and 9 (D and J) or

Exhibit C-1

in several of them another company or other companies in which the Titan Co. or the National Lead Co., together or one of them are engaged with 100%. In such a case the new company entering into the contract has to take upon itself the liability for the former partner besides the latter in regard to the respective agreements.

Exhibit C-1

B.

PARTNERSHIP-CONTRACT

Between the Titan Co. A. S. in Fredrikstad, Norway, (hereinafter referred to as "Titan Co.") and the J. G. Farbenindustrie Aktiengesellschaft in Frankfurt a. M. (hereinafter referred to as "J. G.") the following partnership-contract is made:

No. 1

The Titan Co. and the J. G. form a company with limited liability under the name "Titangesellschaft mit beschrankter Haftung." This company has her domicile in Leverkusen.

No. 2

The object of the enterprise is the production and the sale of titanium compounds in the following countries: Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slovonia, Bulgaria, Greece, Turkey, Japan, China, Spain.

No. 3

The initial capital for the company is RM 500,000.

To this capital each party has to contribute RM 250,000. The parties have to pay at least 25% of this initial contribution before the company will be notified for registration.

No. 4

The business year is the calendar year.

The first business year commences with the registration of the company and ends December 31, 1927.

No. 5

The consent of either party is necessary for disposing of the other party's interest in the business, or of a part of its interest. But it is understood that the Titan Co. has the right to transfer at every time its interest to the National Lead Co. or to any other company in which the Titan Co. or the National Lead Co., together or one of them, are engaged with 100%.

No. 6

The nomination and dismission of the managers is to be made at a meeting of the partners so far as the managers are not already nominated through this contract.

The partners' meeting has the right to nominate several managers. If several managers are nominated, the company is to be represented by at least two managers or by one manager and one proxy or by two proxies. As temporary manager is nominated Direktor Dr. Kuhne, chemist in Wiesdorf-Leverkusen.

No. 7

The partners' meeting is to be called by the managers by registered mail by a week notice at least.

Exhibit C-1

No. 8

In the partners' meeting each RM 1000,—give the right of one vote.

No. 9

The company cannot be dissolved earlier than December 31, 1957. The dissolution takes place, if a partner asks for by registered mail by six months notice. If the termination has not happened on December 31, 1957, it is only allowed on the December 31, 1967, and so further only on the end of a period of ten years.

However, the company can be dissolved already before December 31, 1957, if five consecutive years have brought losses and therefore a partner asks for it by registered mail by six months notice on the end of a calendar year.

In both cases above mentioned such termination has only force if the terminating partner has offered to the other partner at least six months before the termination by registered mail, to transfer to him his interests in the business on payment of a consideration according to the value to be computed on the basis of the company's position at this time without any consideration of a good will, of the patents, and similar, and if the other partner has not accepted this offer by registered mail within five months from the receipt of the offer. In the case that the parties will not agree about the value of the interests to be computed as above mentioned the value is to be fixed by an expert, who is to be nominated by the president of the Chamber of Commerce in Hamburg. The decision of this expert shall bind both parties and shall be definite.

Exhibit C-1

No. 10

In the case of the company's dissolution the liquidators are not allowed to sell or transfer the company's patents and licenses otherwise than together with its marks and in one lot.

No. 11

All notifications of the company are to be published exclusively in the "Deutscher Reichsanzeiger."

Declaration regarding B.

Between the J. G. Farbenindustrie Aktiengesellschaft in Frankfurt a.M. and the Titan Co. A.S. in Fredrikstad (Norway) is agreed that Dr. Kuhne has been nominated as single manager of the Titangesellschaft only therefore because the registration of this company should not be delayed by getting the signatures of the gentlemen who are provided as managers besides Dr. Kuhne.

It is agreed that Mr. Evans McCarty, Dr. Jebsen and Dr. Brüggemann shall be nominated additional managers of the Titangesellschaft in a partners meeting which will be called immediately after the registration of this company.

It is further agreed that Dr. Raspe and another gentleman who will be proposed by the Titan Co. shall be empowered to sign per procuration of the Titangesellschaft.

Exhibit C-2

C.

Between the J. G. Farbenindustrie Aktiegesellschaft in Frankfurt a.M. (hereinafter referred to as "J.G.") and the Titangesellschaft m.b.H. in Leverkusen near Koln a.Rh.

Exhibit C-2

(hereinafter referred to as "Titangesellschaft") the following agreement is made:

No. 1

The Titangesellschaft made today a contract with the Titan Co. A.S. in Fredrikstad (Norway), by which both companies assumed the obligation to grant themselves mutually licensed in the field of the manufacture of titanium compounds on conditions more fully described in the said contract. Referring to this contract the J.G. assumes the obligation to grant to the Titangesellschaft exclusive licenses with the right of granting sub-licenses under all patents, methods and experiences in the "Licensed Field" as named hereinafter.

By the "Licensed Field" is meant all methods and processes in the field of the manufacture of titanium compounds containing two percent or more of the element titanium as well as the titanium compounds themselves. By titanium compounds are understood substances, materials and compositions in which the element titanium is contained in a chemically or physically combined state. For instance, the composition pigments of the character of the titanox belong to them. Simple mixtures do not come under this definition.

No. 2

By filing an Application for Letters Patent on an invention in the "Licensed Field" the J. G. shall within four months from the date of the filing thereof send a copy thereof to the Titangesellschaft. The Titangesellschaft shall inform the J. G. as soon as possible, but not later than within four months from the receipt of the copy of the application for

Letters Patent in which other countries it wishes Applications to be filed on the invention. Then the I. G. shall file the Applications in the countries named by the Titangesellschaft and prosecute the same with care and diligence to patent. Independently of the decision of the Titangesellschaft the I. G. is entitled to file Applications also before the receipt of the Titangesellschaft's answer.

—3—

The I. G. shall be charged with the duty of making in due time all payments lawfully required to maintain and prolong the Letters Patent in the "Licensed Field" as far as the Titangesellschaft does not resign an exclusive license.

—4—

All expenses of obtaining, maintaining or defending any Letters Patent which the I. G. will have in the future are to be paid by the Titangesellschaft. But the Titangesellschaft is relieved of the payment of the expenses for such Patents regarding to which the exclusive license ceased by resignation or otherwise. In this case the Titangesellschaft has only a right to a non exclusive license under the respective Patents.

—5—

The I. G. assumes the obligation to require as far as possible its officers, agents and employees to agree to assign to it through-out the world any and all invention within the "Licensed Field" which may be made by them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

Exhibit C-2

—6—

The exclusive licenses of the Titangesellschaft shall last as long as the I. G. is interested as partner in the Titangesellschaft according to the partnership contract between the I. G. and the Tita Co. At the termination of such interest the Titangesellschaft received a non exclusive license on all inventions, Patents and Patent Applications which the I. G. owns on the date of the termination for the Titangesellschaft itself as well as for all licensees and sublicensees who have received or later receive a license from the Titangesellschaft.

—7—

The Titangesellschaft and each possessor who has an exclusive sublicense under any patent thereunder have the right to take on its own expenses any step under the law regarding the defence of such a patent and to bring suit to restrain and to recover damages, penalties and profits for infringements of such a patent and to receive for its own benefit any sums recovered by such suits, using; if necessary, the name of the I. G. as owner of the patent, but without recourse. The party bringing such a suit has to give sufficient securities to the I. G. for all expenses and liability which may exist by the steps.

The I. G. shall be notified of said suit immediately upon institution thereof and shall be entitled to intervene at its own expense in such litigation.

—8—

The Titangesellschaft assumes the obligation never directly nor indirectly to question or contest the validity of

any patent under which it is licensed by the I. G., nor to use, nor to infringe the same except as licensed nor to afford any pecuniary or other assistance to any contestant or questioner of such validity.

The I. G. assumes the same obligation in regard to patents of the Titangesellschaft and the companies cooperating with it in the "Licensed Field".

—9—

In the case the I. G. should invent or own or have at its disposal any process which involves the use or application of a titanium compound, it is obliged by granting any license under such process, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titangesellschaft respectively its licensees or sublicensees.

—10—

The I. G. assumes the obligation, that in so far as in its power lies, its concerned companies will fully respect this agreement especially the 1, 2, 5, 8 and 9 as if they had made it themselves, and will do nothing against the interest of the Titangesellschaft and the companies cooperating with it in the "Licensed Field".

Exhibit C-3

D

License Agreement between the Titan Co. and the Titangesellschaft.

Between the Titan Co. in Frederikstad, Norway (hereinto referred to as "Titan Co."), and the Titangesellschaft m.b.H. in Leverkusen near Köln a.Rh. (hereinto referred

Exhibit G-3

as to "Titangesellschaft") is the following agreement made regarding the exploitation of the processes for the production of titanium compounds which are at disposal of both parties at present or in the future.

1. DEFINITIONS.

a. *"Licensed Field".*

By this designation as hereinafter employed is meant all methods and processes in the field of the manufacture of titanium compounds containing two per cent (2%) or more of the element titanium as well as the titanium compounds themselves.

By titanium compounds are understood substances materials and compositions in which the element titanium is contained in a chemically or physically combined state. For instance the composition pigments of the character of the titanox belong to them. Simple mixtures do not come under this definition.

b. *"North America".*

By this designation as hereinafter employed is meant the entire continent of that name including the United States, the Dominion of Canada, Newfoundland, Panama and all Central American States, and including also all islands, which are at present considered as being geographically appurtenant to said continent and also including the Philippine and Hawaiian Islands.

c. *"South America".*

By the designation as hereinafter employed is similarly meant the entire continent of that name including all coun-

tries therein located to the south of Panama and also all islands which are at present considered as being geographically appurtenant to said continent.

d. *"Finished Articles"*.

By this designation as hereinafter employed is meant any artificially produced article, or composition, within the "Licensed Field" which has been manufactured by aid of any process, or apparatus, or both, so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed, or associated, as for example in paint, rubber, glass, etc.

e. *"Territory of Titangesellschaft"*.

By this designation as hereinafter employed is meant Germany, Russia, Austria, Hungary, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slavonia, Bulgaria, Greece, Turkey, Japan, China and Spain.

f. *"Territory of Titan Co."*

By this designation hereinafter employed is meant all countries which are not mentioned under the territory of Titangesellschaft.

g. *"Allied Companies"*.

By this designation hereinafter employed is meant all enterprises (except Titangesellschaft, Titan Co., Titanium Pigment Co. and licensees for the territory of the Titanium Pigment Co.) which have received or receive a license of the character foreseen in Art. XIV (a) of the Agreement of 1920.

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Exhibit C-3

h. *"Agreement of 1920"*

By this designation hereinafter employed is meant the Agreement of the July 30, 1920 made between the Titanium Pigment Co. Inc. and the Titan Co. So far as it is referred hereinafter to the clauses of that agreement, those clauses are to be considered as part of this present agreement.

II.

The Titan Co. assumes the obligation to grant to the Titangesellschaft for the territory of the Titangesellschaft on the conditions hereinafter specified a license on the patents, methods and experiences in the licensed field which the Titan Co. now and in the future has at disposal as owner or licensee.

The license includes the exclusive right to the exploitation of all inventions, improvements, and all which belongs to the licensed field.

The Titan Co. assumes the obligation when it grants a license in the territory of the Titangesellschaft on a process which involves the use or application of a titanium compound, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titangesellschaft, respectively its sub-licensees.

The customers of the Titangesellschaft but not the Titangesellschaft itself, shall have the right without opposition by the Titan Co. to sell also outside of the territory of the Titangesellschaft materials and products which are characterized under the designation of "Finished Articles"; however, always with the limitation which follows of the conditions of the agreement of 1920 regarding the export of "Finished Articles" to North and South America.

Exhibit C-3

The exclusive licenses shall on the request of the Titangesellschaft be made directly to the allied companies and this request can be made for one or several countries or for one or several patents or patent applications.

III.

The Titangesellschaft assumes the obligation to grant to the (Titangesellschaft) for the territory of the Titan Co. on the conditions hereinafter specified a license on the patents, methods and experiences in the licensed field which the Titangesellschaft now and in the future has at disposal.

The license includes the exclusive right to the exploitation of all inventions, improvements, and all which belongs to the licensed field.

The Titangesellschaft assumes the obligation when it grants a license in the territory of the Titan Co. on a process which involves the use or application of a titanium compound, to impose on the licensee the obligation to cover his requirements of titanium compounds exclusively from the Titan Co. respectively its sub-licensees. The customers of the Titan Co. but not the Titan Co. itself, shall have the right, without opposition by the Titangesellschaft to sell also outside of the territory of the Titan Co. materials and products which are characterized under the designation of "Finished Articles"; however, always with the limitation which follows of the conditions of the Agreement of 1920 regarding the export of "Finished Articles" to North and South America.

The maritime organization of the Titan Co. which deals nearly exclusively in supplying to Skandinavian ships, shall be considered customer of the Titan Co. The Titan Co. will let know the Titagensellschaft from time to time its selling

organs active in its maritime business in the territory of the Titangesellschaft for examining the seize of the business and sales made in the territory of the Titangesellschaft.

The exclusive licenses shall on the request of the Titan Co. be made direct to the allied companies and this request can be made for one or several countries or for one or several patents or patent applications.

IV.

The Titan Co. and the Titangesellschaft assume, mutually, the obligation, with the exception of the cases foreseen in Art. II and III, not direct or indirect to sell to the territory of the other party anything in the "Licensed Field".

The Titan Co. and the Titangesellschaft assume, mutually, the obligation so far as possible to impose this obligation also on their customers. In the case the Titan Co. permits to the Titangesellschaft to sell in or for the territory of the Titan Co. any products in the "Licensed Field", the Titangesellschaft is obliged to make this sale through the Titan Co. The Titan Co. is from now appointed exclusive agent of the Titangesellschaft for the territory of the Titan Co. and remains as such as long as the Titangesellschaft has the right to an exclusive license from the Titan Co.

For North America and eventually South America, in the case the Titanium Pigment Co. acquires the latter as exclusive territory according to Art. XI of the agreement of 1920, the Titangesellschaft shall in any case appoint the Titanium Pigment Co. as exclusive agent in accordance with the Art. VI c of the Agreement of 1920. The Titangesellschaft shall, however, only negotiate with this agent through the Titan Co. and eventual sales shall be dependent on the consent of the Titan Co.

Exhibit C-3.

The Titangesellschaft shall on request of the Titan Co. appoint as exclusive agent an allied company which received an exclusive license of the Titan Co. for its respective territory.

The Titangesellschaft is obliged only to effect such sales orders of the agent as it approves. The agent can fix his own prices and conditions for the resale.

In the case the Titangesellschaft permits to the Titan Co. to sell in or for the territory of the Titangesellschaft any products in the "Licensed Field" the Titan Co. is obliged to make this sale through the Titangesellschaft. The Titangesellschaft is from now appointed exclusive agent of the Titan Co. for the territory of the Titagesellschaft and remains as such as long as the Titan Co. has the right to an exclusive license from the Titangesellschaft

The Titan Co. shall on request of the Titangesellschaft appoint as exclusive agent an allied company which received an exclusive license of the Titangesellschaft for its respective territory.

The Titan Co. is obliged only to effect such sales orders of the agent as it approves. The agent can fix his own prices and conditions for the resale.

Though it is permitted to the customers of the Titangesellschaft by the Art. II and III hereof, to sell materials and products which are characterized under the designation of "Finished Articles", however, both parties shall watch carefully that their customers do not make competition to the one or other company in its respective territory in a manner unwelcome for the other party.

If a company ascertains such a competition of a customer of the other company, the latter shall take the necessary measures, to prevent the customer from continuing the competition.

Exhibit C-3

It seems impossible to fix the particulars of the measures which are necessary for performing this principle. But from time to time the parties will discuss together the conditions of the market and the measures to be taken.

V.

Both parties hereto assume mutually the following obligations:

a. Either party, whenever it files an Application for Letters Patent on an invention in the "Licensed Field", shall within six months from the date of the filing thereof send a copy thereof to the other party and file an Application on the same invention in each country or place which belongs to the other party's territory and prosecute the same with care and diligence to patent.

In the case the Titan Co. or the Titangesellschaft received documents regarding such an application or patent from any of its licensees or sublicensees they shall respectively send these to each other with one month from the date of the receipt, together with the necessary transfer documents.

b. Either party hereto may relieve itself of the obligations assumed by it under subdivision "a" of this Article "V" by sending by registered mail to the other party hereto within two months of the time of the filing by it in any country or place of an Application for Letters Patent on any invention in the "Licensed Field", or within one month from receiving the same from an allied company, a copy of such application with all papers necessary to permit the filing of an application for Letters Patent on the invention covered thereby in each of the countries and places included

within the territory with respect to which an exclusive license to the other party hereunder is hereby granted or provided for, and if possible under the International Convention for the protection of Industrial Property, and with the necessary papers for vesting the ownership thereof, as distinguished from a license in such other party.

c. Each party hereto shall be charged with the duty of making all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for.

Regarding patents of the Titangesellschaft in North America, and eventually South America in the case the Titanium Pigment Co acquires the latter as its exclusive territory according to the Agreement of 1920 Art. XI, the Titan Co. has in any case the right to make the payments in the name of the Titangesellschaft, and to debit the latter for each payment. The Titangesellschaft shall in good time inform the Titan Co. of the terms of the payments, in order to enable the latter to make payments in regular manner without difficulties.

[RE-TRANSLATION (In Pencil)

d. Either party may free itself of its responsibilities for bearing a part of the expenses for obtaining, defending and maintaining or prolonging a patent or a patent application for which it has an exclusive license by informing the other party, who is the owner of the patent or who can dispose of it, of its invention by means of a formal withdrawal of its exclusive license, in which case it will no longer have an exclusive license over the patent.

Exhibit C-3

In case the one who owns or disposes of the patent or the patent application is a company connected with Titan Co. then the withdrawal will have to be directed to Titan Co. and not to the owner.]

d. Either party hereto may relieve itself of its obligation to pay any of the expenses of obtaining, defending, maintaining, or prolonging any Letters Patent or Application for Letters Patent, with respect to which an exclusive license in favor of said party is at any time in force, by delivering to the other party (who is the owner of the patent or who possess disposal rights thereof) a full, complete, and duly executed release of the exclusive license of such party thereunder, in which case the party so renouncing its right shall have a non-exclusive license with respect to the same. In the case the owner or controller of a patent or patent application is an allied company, the release shall be sent to the Titan Co., and not to the owner.

e. Either party hereto may relieve itself of its obligation to pay its share in the expense of maintaining or defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party hereto is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full, complete, and duly executed assignment of all the right, title, and interest of such party in and to the same.

f. Each party hereto or each possessor who has an exclusive license or exclusive sublicense under any patent thereunder shall have the right to take at its own expenses any step under the law regarding the defence of any patent under which he has granted an exclusive license and to bring suit to restrain and to recover damages, penalties,

and profits for infringements of such a patent, and to receive for its own benefit any sums recovered by such suits, using, if necessary the name of the other party of this agreement, but without recourse and on the condition of giving sufficient security to the owner for all expense and liability, what may exist by the steps. The other party hereto owning or controlling any patent so sued on shall be notified of said suit immediately upon institution thereof and shall be entitled, if it shall so elect, to intervene at its own expense in such litigation.

VI.

The exclusive licenses herein provided for shall be granted and accepted and their continuance dependent on the following conditions to be stated in every license agreement:

a. That the licensee shall never directly nor indirectly question, or contest, the validity of any patent under which it is licensed, nor use nor infringe the same except as licensed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

b. The Titangesellschaft assumes the obligation to pay to the Titan Co. a royalty on the basis of Norwegian Gold Kroner 25 per ton (1000 kg) TiO_2 for the products produced which come under the present agreement.

The royalty obligation ceases at the end of 1936.

The Titangesellschaft shall within the end of January and July of each year send to the Titan Co. a statement of the production during the last six months on which it has to pay a royalty. On the request of the Titan Co. the state-

ment of the production is to be controlled by a trustee who is convenient to the Titangesellschaft. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

c. The licensee assumes the obligations of Art. IV.

d. The future cost of paying taxes and annuities necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought to annul or cancel said Letters Patent or any of them, and the future cost of obta' ng Letters Patent, as provided for in section "a" of Art. "V" hereof, shall be equally divided between the Titan Company and the Titangesellschaft and the party making said payments shall be reimbursed by the other party for its share of said payments within sixty days after the receipt of said other party of a verified statement of account evidenced by proper vouchers.

e. Each party hereto shall at all times, on request of the other, duly and with all possible diligence, execute and deliver to said other party any and all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all provisions and obligations of this agreement, and particularly so as regards all licenses therein referred to, and also all patents and the maintenance and enforcement of the latter, and also the preparation, filing and prosecutions of the applications for patents.

f. In the event that either of the parties hereto at any time or times, violates or neglects performance of any of the conditions hereinabove set forth in this article "VI", the other party, grantor of its exclusive license, may by registered

mail thereto duly addressed notify the delinquent party accordingly. Unless within six months after such mailing of said notice the delinquency has ceased, and satisfaction therefore been made, then in that case the exclusive license hereby granted to the delinquent party may, at the option of the aggrieved party at any time thereafter be terminated by notice to that effect sent by registered mail to the delinquent party by the aggrieved party. But no such termination of license to the delinquent party shall operate to relieve the aggrieved party from its own obligations hereunder, nor terminate its own exclusive license or the sublicenses thereby granted.

g. The Titangesellschaft as receiver of the sublicense from the Titanium Pigment Co. assumes all obligations of Art. XIV a, but without the subsections (1) and (3) of the Agreement of 1920, and this also in the cases where these obligations do not coincide with the conditions of the present agreement.

VII.

Each party hereto agrees that it will cooperate with the other party full and accurate information in details as to knowledge obtained by it since the last report in and applicable to the "Licensed Field" and will permit the other party by its duly accredited representatives, during business hours, to inspection of and study and inquiry in any of its plants, where work in the "Licensed Field" is being done, exclusive of its research laboratories; provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under the signature to assign all his inventions pursuant to the provisions of the following Article VIII.

Exhibit C-3

VIII.

Each party hereto agrees that it will, so far as possible, require its officers, agents and employeed to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

IX.

Each party hereto agrees that in acquiring rights to inventions within the "Licensed Field" it will, so far as possible endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

X.

The exclusive licenses which are hereby granted or foreseen shall last as long as the Titan Co. or its successor as partner is interested in the Titangesellschaft according to the partnership-contract between the Titan Co. and the I. G. Farbenindustrie Aktiengesellschaft as per annex hereto. At the termination of such interest the parties hereto shall mutually receive a non-exclusive license on all inventions, patents and patent applications which the other party owns or has at its disposal in consequence of licenses on the date of the termination for itself as well as for all licensees and sublicensees who have received or later receive a license from the party within the territory of the respective party.

All other obligations and liabilities as well as benefits resulting from this agreement shall cease.

Exhibit C-3

In the case an agreement between the Titan Co. and one of the allied companies terminates, the Titan Co. has the right to terminate the licenses which the Titan Co. or respectively the Titangesellschaft have received from this company. The Titangesellschaft and the allied company in question have the right and the obligation, mutually, to grant non-exclusive licenses in the case these licenses are not executed by the Titan Co. in accordance with the arrangements agreed upon above between the Titan Co. and the Titangesellschaft. Mutual rights and obligations remain otherwise as agreed in this agreement.

In the case that the agreement of 1920 and exclusive licenses according to that agreement should terminate before the termination of this, the Titangesellschaft has only the right to non-exclusive licenses, as a result of the Agreement of 1920, and the Titangesellschaft obliges itself in the case the Titan Co. so requests to terminate the exclusive lises granted to the Titanium Pigment Co. by the Titangesellschaft and substitute them with non-exclusive licenses in accordance with Art. X of the mentioned agreement, and to transfer to the Titan Co. the right to an exclusive license outside of the license to the Titanium Pigment Co.

The termination of the Agreement of 1920 shall be of no influence on the mutual rights and obligations of the Titan Co. and the Titangesellschaft regarding the exclusive exploitations of their patents and inventions until the termination of the present agreement.

XI.

In the case the Titanium Pigment Co. makes use of the option in the Agreement of 1920 regarding the acqui-

sition of South America as exclusive territory, the Titangesellschaft assumes the obligation for the territory to enter into the same relation with the Titanium Pigment Co. as for North America.

XII.

The interest of either party hereto may be assigned in toto but not otherwise and only in connection with the transfer of the entire business of such party to any person, firm, association, or corporation which assumes the obligations of such party, and this agreement in all respects shall be obligatory, not only upon each of the parties hereto respectively, but also upon their respective assigns, successors and legal representatives.

XIII.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties, the control of which is held by either party hereto, to the end that the terms of this agreement shall not be avoided by the existence of formation of affiliated or subsidiary companies.

XIV.

For all countries outside its territory the Titangesellschaft cannot grant a license under a patent which it disposes as owner and otherwise; or under which it has an exclusive license hereunder, without making the licensee or sublicensee to an allied company in the sense of the definition in Art. 1 g. The Titangesellschaft is obliged by the grant of such a license to impose on the licensee the obligation which the Titangesellschaft has assumed hereunder.

Exhibit C-3

XV.

The Titan Co. leaves to the Titangesellschaft the use of the mark "Kronos". The Titangesellschaft assumes the obligation to use this mark, but only for qualities which are equal to or better than the mark "Standard" used now by the Titan Co. If it would become necessary that the Titangesellschaft sells an inferior quality, this sale is to be effected with another new mark to be adopted by the Titangesellschaft.

XVI.

The Titan Co. is entitled to substitute for itself in this agreement another company in which the Titan Co. or the National Lead Co. together or one of them, are engaged with 100%. In this case the company substituted instead of the Titan Co. has to take upon itself besides the Titan Co. the obligations of the latter according to this agreement.

Exhibit C-3

Protocol regarding the license agreements between the I.G. and the Titangesellschaft (C) and between the Titan Co. and the Titangesellschaft (D)

Par. 8 of the license agreement made today between the I. G. Farbenindustrie Aktiengesellschaft and the Titangesellschaft m.b.H. and Art. VI a of the license agreement made today between the Titan Co. A.S. and the Titangesellschaft m.b.H. say that each party shall never directly nor indirectly question or contest the validity of any patent of the other party, nor use nor infringe the same except as licensed, nor directly nor indirectly connive with, nor afford any pecuniary or other assistance to any contestant or questioner of such validity.

All three companies named herebefore agree that it is desirable that all what is said in these clauses about patents shall also apply to patents applications.

They further agree that the Titan Co. will take steps to the Titan Pigment Co. and the Societe Industrielle de Titane for bringing out the consent of these companies to an including the patents applications into their obligations.

As soon as all concerned companies consent, the extension of the obligations to patents applications shall be confirmed expressly as supplement of the agreements.

Exhibit C-4

E

Agreement between the Titangesellschaft and the I. G. regarding the renting, gas, etc., and transports.

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a. Rh. (hereinafter referred to as "Titangesellschaft") and the I. G. Farbenindustries Aktiengesellschaft in Frankfurt a.M. (hereinafter referred to as "I.G.") the following agreement is made:

—1—

The I. G. rents—and only for the purpose of the production of titanium compounds—to the Titangesellschaft a factory building situated in Wiesdorf—Leverkusen and to be placed at disposal immediately with a corresponding ground which is more fully described in the annex.

The annual rent amounts to 6% of the existing building's value fixed to RM 375.000,—and 6% of the value of all alteration and all increasing of the building. On the Titangesellschaft's request the I. G. has to make alterations and wings on the ground rented.

All taxes and charges which concern the building and the ground are to be paid by the Titangesellschaft. The I. G. assumes the upkeep and repairs of the exterior of the building, whereas the upkeep of the interior of the building has to be assumed by the Titangesellschaft. The insurance premium on the building have to be carried by the Titangesellschaft.

—2—

The I. G. assumes the obligation to put at the disposal of the Titangesellschaft in the factory building leased from

the I. G. according to the #1 steam, gas, water and electricity in quantities required from the Titangesellschaft for its factory at self-cost at the place of delivery. In the case of differences regarding the self-cost, the Titangesellschaft or a partner of it is entitled to have the vouchers controlled by a trustee, who is convenient to the I. G. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

—3—

The I. G. assumes the obligation to put at disposal of the Titangesellschaft at reasonable prices the transportation facilities within the scope of their usual transport operations in their work Leverkusen, which are necessary for the operations of the Titangesellschaft in the leased building.

—4—

This contract valids for the during of the I. G.'s interest in the Titangesellschaft. When the I. G. transfers all its shares to the Titan Co. or to a third person, the contract ceases two years after the transfer.

Amended by agreement dated May 18, 1928—original and translation attached to Mr. McCarty's letter to M. D. C. of June 15, 1928 this file. M. D. C.

Exhibit C-5

F.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE I. G. REGARDING THE SUPPLY OF PRODUCTS

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft".) and the I. G. Farbenindustrie Aktiengesellschaft in Frankfurt A.M. (hereinafter referred to as "I. G.") the following agreement is made:

—1—

The Titangesellschaft assumes the obligation to cover exclusively from the I. G. its entire requirements of products produced and at disposal resp. purchased by the I. G. at self-cost and 10% respectively at standing-in prices, with the right of the most-favored. The I. G. assumes the obligation to cover the Titangesellschaft's requirement of products manufactured by it on these conditions.

—2—

In case the self-cost and 10% respectively the standing-in price during three consecutive months is higher than proved offers from the competition, or if the I. G. is not able to cover the requirements of the Titangesellschaft the latter is entitled to cover its requirements of manufactured products otherwise.

—3—

The self-cost is to be computed according to a schedule agreed between both parties and annexed to this contract. In the case of differences regarding the self-cost or stand-

ing-in price the Titangesellschaft or a partner of it is entitled to have the vouchers controlled by a trustee, who is convenient to the I. G. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same on application of both parties.

The Titangesellschaft has to observe silence about the invoiced standing-in price.

—4—

This contract valids for the during of the I. G.'s interest in the Titangesellschaft. When the I. G. transfers all its shares to the Titan Co. or to a third person, the contract ceases two years after the transfer.

Exhibit C-6

G.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE I. G. REGARDING THE AGENCY

Between the Titangesellschaft m.b.H. in Leverkusen near Köhn a Rh. (hereinafter referred to as "Titangesellschaft") and the I. G. Farbenindustrie Aktiengesellschaft in Frankfurt a.M. (hereinafter referred to as "I. G.") the following arrangement is made:

1.

The Titangesellschaft appoints the I. G. its exclusive selling agent for its total production for the following countries: Germany, Russia, Austria, Hungaria, Tschecko-Slovakia, Switzerland, Roumania, Serbia-Croatia-Slavonia, Bulgaria, Greece, Turkey, Japan, China, Spain. The prices are to be fixed by the Titangesellschaft. The proceeds from the sales through the agency of the products of the Titangesellschaft are to be handed over to the Titangesellschaft after deduction of a commission of at first 5%.

2.

The sale is to be effected through the sales organization of the I.G. without the consent of the Titiangesellschaft the I. G. is not entitled to transfer the exclusive sale for any country or territory to anybody who deals for his own account.

3.

The sale of the products of the Titangesellschaft has to be made exclusively with the use of its brands and marks.

Exhibit C-6

4.

All papers resulting from the sale of the products of the Titangesellschaft, especially all registers of clients, correspondence etc. remain respectively become the property of the Titangesellschaft and are to be delivered to it at the termination of the sales activity of the I. G. for the Titangesellschaft.

5.

In the case the I. G. neglects grossly the sale of the products of the Titangesellschaft, the latter is entitled to withdraw the exclusive agency and to carry on the sale either itself either by other agents.

6.

Besides the validity of this agreement expires only and then automatically either if the Titangesellschaft will be liquidated or if the one partner transfers all his shares of the Titangesellschaft, excepted this transfer is made by the Titan Co. on the authority of its right granted in Par. 5 of the partnership-contract made between the Titan Co. and the I. G.

7.

It is known to the I. G. that according to Art. III of the license agreement made between the Titangesellschaft and the Titan Co. the maritime organization of the Titan Co. which deals nearly exclusively in supplying to Skandinavian ships, shall be considered customer of the Titan Co.; and that the Titan Co. will let know the Titangesellschaft from time to time its selling agents active in its maritime business in the countries named in Par. 1 hereunder and the sales effected by them, for examining the seize of the business and sales made in these countries.

Exhibit C-7

H.

AGREEMENT BETWEEN THE TITANGESELLSCHAFT AND THE TITAN CO. REGARDING THE SUPPLY OF ORE.

Between the Titangesellschaft m.b.H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft") and the Titan Co. A. S. in Frederikstad, Norway, (hereinafter referred to as "Titan Co.") the following agreement is made:

1.

The Titan Co. is obliged to supply to the Titangesellschaft on its request for the requirement of its manufacturing ore in a quantity and at a price favorable to the Titangesellschaft. The approximate requirement of the Titangesellschaft has to be given to the Titan Co. in time, latest until November 1 for the following calendar year. The quantity requested has to be taken in consideration according to the actual orders by a fair division without any regard to the price.

2.

The Titan Co. supplies to the Titangesellschaft at the following price: An original cost excluding any amortization as to the annexed schedule is computed which the Titangesellschaft or a partner of it is entitled to control by a trustee who is convenient to the Titan Co. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

Exhibit C-7

To the original price it is added an extra of Norwegian Gold Kroner:

Kr.14—for the ton (1000 kg) 40% good at a total production of the Titan Co. until 12,500 tons the year

Kr13—for the ton (1000 kg) 40% good at a total production of the Titan Co. until 15,000 tons the year

Kr.12—for the ton (1000 kg) 40% goods at a total production of the Titan Co. until 17,500 tons the year

Kr.11—for the ton (1000 kg.) 40% good at a total production of the Titan Co. until 20,000 tons the year

Kr.10—for the ton (1000 kg) 40% good at a total production of the Titan Co. over 20,000 tons the year.

If the good contains more or less of TiO2 than 40% reckoned on dry good, the extra is to be risen or reduced for 7½% for the present Ti02. The Titan Co. guarantees a highest price of Gold Kronor 40, 50 for the ton 40% good f.o.b. Raegefjord, Norway + 1 Gold Krone for the percent TiO2 more or less contents. The Titan Co. reserves for itself the right to supply the goods damp with a percentage of water not exceeding 8%.

3.

The Titangesellschaft is obliged to cover its requirement in preference from the Titan Co. In the case the Titangesellschaft gets proved orders for supply from another side at lower price and the Titan Co. does not reduce its price proportionately, the Titangesellschaft is entitled to buy from another side.

Exhibit C-7

4.

The validity of this contract expires only and then automatically if the Titangesellschaft will be liquidated.

In the case the Titan Co. transfers all its shares to the I. G. Farbenindustrie Aktiengesellschaft or to a third person, the contract ceases two years after the transfer, excepted this transfer is made by the Titan Co. on the authority of its right granted in #5 of the partnership-contract made between the Titan Co. and the I. G. Farbenindustrie Aktiengesellschaft.

Exhibit C-8

J.

Agreement between the Titangesellschaft and the Titan Co. regarding the supply of products.

Between the Titangesellschaft m. b. H. in Leverkusen near Köln a Rh. (hereinafter referred to as "Titangesellschaft" and the Titan Co. A. S. in Frederikstad, Norway, (hereinafter referred to as "Titan Co.") the following agreement is made:

1.

It is contemplated that the Titan Co. will reduce or close its production for a time, if it can buy the products of the Titangesellschaft from the latter cheaper than it can produce itself. If the Titan Co. wishes to buy from the Titangesellschaft at the original cost, the latter is obliged to supply the quantities fixed from year to year, but latest three months before the beginning of the respective year.

2.

The original cost is to be computed according to a schedule agreed between both parties as annexed to this contract. In the case of differences regarding the original cost the Titan Co. is entitled to have the vouchers controlled by a trustee who is convenient to the Titangesellschaft. In the case no agreement can be reached with regard to the person of the trustee, the Chamber of Commerce in Hamburg shall appoint the same.

The Titan Co. is entitled to take 50% of the capacity of the Titangesellschaft's work at the original cost. For the quantities taken by the Titan Co. exceeding 50% of this capacity, an additional of 10% of the original cost is made.

Exhibit C-8

3.

In the case the Titan Co. gives notice of its requirement in due course, the Titangesellschaft is willing and obliged to increase its capacity of fabrication in an adequate way.

4.

The validity of this agreement expires only and then automatically if the Titan Co. transfers all its shares of the Titangesellschaft to the I. G. Farbenindustrie Aktiengesellschaft or to a third person, excepted this transfer is made on the authority of the Titan Co.'s right granted in #5 of the partnership-contract made between the Titan Co. and the I. G. Farbenindustrie Aktiegesellschaft.

5.

The Titan Co. is entitled to substitute for itself in this agreement another company in which the Titan Co. or the National Lead Co., together or one of them, are engaged with 100%. In such a case the new company entering into the contract has to take upon itself besides the Titan Co. the obligation of the latter according to this agreement.

Exhibit C-9

Translated from German.

Between the Titan Company Inc. and its associated Titanium companies the practice has developed to exchange licences in patent cases covering subject matters which are beyond the licensing obligation determined by contracts between the companies, but which are of interest for the production, use and sale of products within the Licenced Field, as for instance:

Recovery of materials used in the titanium industry (e. g. sulphuric acid), utilization of by-products (e. g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed between the contract firms that when a firm offers such a licence outside its contractual obligation, it means—unless reservations are made—that the inventor company (respectively the company granting the licence), as far as it within its power and not contrary to legal regulations, is willing to give to the other companies, on current agreement conditions, the rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

It is foreseen that in cases where the receiving company (licencee) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This provision shall apply both to offers of licences made in the past and to those to be made in the future.

Exhibit C-9

This arrangement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a licence of the character described in Article XIV, paragr. a) of the agreement of 1920, and further the firm E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U. S. A.

TITAN COMPANY INC. TITANGESELLSCHAFT m.b.H.

(sign.) Brüggemann , p.p. F. Raspe

Vice President

Exhibit C-9

Swischen der Titan Company Inc. und deren verbündeten Titan-Gesellschaft hat sich die Gopflegenheit herausgebildet, Lizorzen in Patenangelenheiten betr. Erfindungen auszutauschen, die uber die vertraglich swischen den Firmen festgelgte Lizenzierungspflicht hinausgehen, die aber fur die Herstellung, den Gebrauch und Verkauf von Produkten innerhalb des Lizenzgobiotes von Interesse sind, z.B.:

Wiedergowinnung von Materialien, die in der Titanindustrie Anwezdung finden (z.B. Schwefelsäure), Verwertung von Nebenprodukten (z.B.Nisonsulfat), Merstellung von Pigment-Trägern, Apparaten und Verwendung von Titanpigmenten und Verbindungen, sowie Nebenprodukton und Pigment-Trägern.

Zwischen den Vertragsfirmen wird vereinbart, dass, wenn eine Firma ausserhalb ihrer Vertragspflicht ein selches Lizenzangebot macht, dies bedoutet—wenn keine Verbehalte gemacht werden—, dass die Erfinder-Gesellschaft (bzw. der Lizenzgeber), soweit es in ihrer macht steht und gesetzliche Bestimmungen nicht entergenstehen, bereit ist, den anderen Geselleschaften, unter den bestehenden vertraglichen Bodingungen, die Rechte zur Verwertung der Erfindung zwercke Herstellung, Bebrauch und Verkauf von Produkten innerhalb des Lizenzgebietes für alle Patente ausserhalf ihres Territoriums zu erteilon.

Es wird vergesehen, dass in den Fällen, wo der Lizonznehmer kein Interesse an einer oxyklusiven Lizonz für obige Zwecke hat, eine nicht exklusive Lizonz für genannte Zwecke für die betreffende Gesellschaft erteilt wird.

Dises Bestimmung soll sich sowohl auf die Lizenzangebote bezichen, die bereits in der Vergangenheit gemacht

worden sind, wie auch auf diejenigen, die noch in der Zukunft gemacht worden.

Diese Asbprache soll zur für diejonigen berbündeten Gesellschaften gelten, die im allgemeinen Gegenseitigkeit ausüben oder in Zukunft ausüben werden.

Der Ausdruck "verbündete Gesellschaften", wie oben benutzt, umfasst alle Gesellschaften, welche eine Lizenz von dem Charakter der in Prf. 14, Abschnitt a des Vertrages von 1920 bezeichnoten Art haben oder erwerben, und former die Firma E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U. S. A.

TITANGESELLSCHAFT m.b.H.

(gez.) BRUGGEMANN. p.p F. RÄSPE.

TITAN COMPANY, INC.

Vice-President

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Exhibit D

AGREEMENT

between The Titan Company Inc. of Delaware, U. S. A. hereinafter referred to as Incorporated, and Titan Co. A/S. of Fredriksstad, Norway, hereinafter referred to as A/S.

A/S. is in possession of certain patent rights and methods as well as of various rights according to special contracts concerning the production and sale of Titan products, viz.:

1. Contract of July 30, 1920 between A/S. and the Titanium Pigment Company Inc. together with contracts of even date with National Lead Company and Titanium Alloy Manufacturing Company, and additional Agreement of March 15th 1928 between the A/S. and the aforesaid three companies.

2. License Agreement of October 18th 1922 transferred to and accepted by Societe Industrielle du Titane with change according to letter of May 9th 1928 from Titan Co. A/S. to Societe Industrielle du Titane and accepted by the last one.

3. a. Contract of October 3rd/20th 1927 with the I. G. Farbeinidustrie Aktiengesellschaft, designated as Contract A.

   b. Contract of October 3rd/20th 1927 with Titangesellschaft m. b. H., designated as Contract D., together with protocol of the same date concerning the said Contract D. and additional Agreement of the same date between I. G. Farbenindustrie Aktiengesellschaft and A/S. concerning alterations of Paragraph 5 a. and b. of the said Contract D. executed through

Exhibit D

letters between I. G. Farbenindustrie Aktiengesellschaft and A/S. of May 8th and June 9th 1928.

c. Contract of October 3rd/20th 1927 with Titangesellschaft m. b. H., designated as Contract J.

Incorporated is beforehand fully acquainted with these contracts as well as with the contract of October 3rd/20th 1927 concerning Titangesellschaft m. b. H. and designated as B. C. E. F. G. and H.

In addition to the patent rights and methods which have been dealt with and covered by the above under 1. to 3. specified contracts, A/S. is in possession of other letters patent and of applications for letters patent conferring patent monopolies in the "Licensed Field" as defined in the above-mentioned agreement with Titanium Pigment Company Inc. of July 30th 1920.

A/S. transfers to Incorporated against payment as stipulated below all its patents and patent rights and the contracts specified under 1. to 3. above to the effect that A/S. is hereby replaced by Incorporated as a party to these contracts as if the name of Incorporated had been inserted in the contracts instead of the name of A/S.

The transfer of the contracts is subject to the consent of the different parties thereto—other than A/S.—and A/S. obliges itself to use its "bona officia" in order to obtain such consent.

Incorporated shall pay to A/S. a royalty of Twenty-five Norwegian gold crowns for each metric ton of One Thousand kilogrammes (1000 Kg.) produced by Incorporated or its licensees or sub-licensees in Europe in any calendar year of titanium dioxid (TiO_2), or its equivalent if other com-

Exhibit D

pounds of titanium are produced. This royalty to be paid within one month after the expiration of the calendar year.

Incorporated assumes—for itself and for all its licensees and sub-licensees on whose production this royalty is applicable—an obligation to keep exact records concerning the contents of TiO_2 in all products for sale as well as records concerning the produced quantities of each of such products.

For the purpose of control, A/S. shall have the right to examine by a Chartered Accountant the original books containing the said records as well as documents which may possibly serve as a control of the books or records. If the parties do not agree upon the nomination of such a Chartered Accountant, this one shall be nominated by "Oslo Börs og Handelskomite".

As regards the royalties from the licenses or sub-licensees of Incorporated, A/S. is willing to accept the system which Incorporated has established for the control of its own rights. A/S. is entitled to claim certified copies of the results of such control.

Any dispute concerning the quantities on which royalties has to be paid is to be decided by "Den Tekniske Voldgiftsret i Oslo".

The obligation to pay such royalties expires at the end of the year 1936, the production of this year being the last one on which to pay royalties.

Incorporated shall further pay to A/S. an amount of One Million Six Hundred Thousand Norwegian Crowns (N.Kr. 1,600,000.00) plus interest at four per cent. (4%) per annum from January 1st 1929. A/S. is willing to accept the payment to be liquidated in a corresponding part of its indebtedness to National Lead Company.

According to agreement between A/S. and Det Norske Aktieselskab for Elektrokemisk Industri of November

Exhibit D

23rd 1916, amended by additional agreement of June 10th 1927, A/S. is under obligation to pay to Det Norske Aktieselskab for Elektrokemisk Industri Twenty per cent. (20%) of its net profit from sale of Non-European patents or licenses. It is hereby agreed that if A/S. through this obligation shall have to pay to Det Norske Aktieselskab for Elektrokemisk Industri an amount of more than One Hundred Thousand Norwegian Crowns (N.Kr. 100,000.00), Incorporated shall indemnify A/S. for such exceeding amount.

The economical benefit and obligations derivated or to be derivated from the rights and obligations transferred by the present agreement are to be settled between the the parties as if the transfer had taken place on January 1st 1929.

Fredriksstad, Norway,
March 23rd, 1929.

TITAN Co. A/S

Exhibit E-1

THIS AGREEMENT, entered into as of the first day of January, 1936 by and between TITANIUM PIGMENT COMPANY, INC., a corporation organized under the laws of the State of Maine (hereinafter called "Titanium"), KREBS PIGMENT & COLOR CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter called "Krebs"), and E. I. du PONT de NEMOURS & COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter called "du Pont"),

WITNESSETH:

WHEREAS Titanium and Krebs entered into an agreement dated January 31, 1933, providing for the granting to each other of licenses under their respective inventions within the "Licensed Field" as therein defined; and

WHEREAS the manufacturing and research assets and business of Krebs were transferred to du Pont as of December 31, 1935, and du Pont intends to conduct through a separate department, known as its Krebs Pigments Department, the manfacturing and research activities which heretofore have been carried on by Krebs; and

WHEREAS the parties desire that the rights and obligations of Krebs under the aforesaid contract be assigned to and assumed by du Pont without changing the scope or practical operation of said agreement;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the rights and obligations of Krebs under the aforesaid contract of January 1, 1933 and under all licenses heretofore granted by or to Krebs pursuant to said contract are hereby assigned to

and assumed by du Pont, with the consent of Titanium; provided, however, that the "Licensed Field", as defined in said contract, and the rights and privileges granted under said contract and licenses, shall not be deemed to include or apply to any methods, processes, apparatus or products of du Pont other than those which relate primarily to or come within the scope of the activities regularly conducted by its Krebs Pigments Department.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereto affixed, as of the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.

By LOUIS ROOSEVELT

President

[CORPORATE SEAL]

Attest:

M. Dow
Secretary

KREBS PIGMENT & COLOR CORPORATION

By Z. PHELPS

Vice Pres.

[CORPORATE SEAL]

Attest:

C. H. LYMAN
Secretary

Exhibit E-1

E. I. du Pont de Nemours & Company
By J. Thompson Brown
Vice President

[CORPORATE SEAL]

Attest:

M. D Fisher
Ass't Secretary

Form Approved
Legal Department

H. C. Haskell
Asst. Director

Exhibit E-2

THIS AGREEMENT, entered into as of the 31st day of October, 1936, by and between E. I. DU PONT DE NEMOURS AND COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter called "DU PONT"), TITANIUM PIGMENT COMPANY, INC., a corporation organized under the laws of the State of Maine (hereinafter called "TITANIUM"), and NATIONAL LEAD COMPANY, a corporation organized under the laws of the State of New Jersey (hereinafter called "NATIONAL"),

WITNESSETH:

WHEREAS, TITANIUM and KREBS PIGMENT & COLOR CORPORATION, (hereinafter called "KREBS"), entered into an agreement dated January 1, 1933, providing for the granting to each of licenses under their respective inventions within the "Licensed Field" as therein defined; and

WHEREAS, DU PONT is the successor in interest of the said KREBS and by virtue of an agreement between TITANIUM, KREBS and DU PONT, dated January 1, 1936, has assumed the rights and obligations of KREBS under said agreement of January 1, 1933; and

WHEREAS the manufacturing and research assets and business of TITANIUM were transferred to NATIONAL as of October 31, 1936, and NATIONAL intends to conduct through a separate division, known as its Titanium Division, the manufacturing and research activities which heretofore have been carried on by TITANIUM; and

WHEREAS, the parties desire that the rights and obligations of TITANIUM under the aforesaid contract be assigned

Exhibit E-2

to and assumed by NATIONAL without changing the scope or practical operation of said agreement;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the rights and obligations of TITANIUM under the aforesaid contract of January 1, 1933 and under all licenses heretofore granted by or to TITANIUM pursuant to said contract are hereby assigned to and assumed by NATIONAL, with the consent of DU PONT; provided, however, that the "Licensed Field", as defined in said contract, and the rights and privileges granted under said contract and licenses, shall not be deemed to include or apply to any methods, processes, apparatus or products of NATIONAL other than those which relate primarily to or come within the scope of the activities regularly conducted by its Titanium Division.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereto affixed, as of the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By C. H. RUPPERT
General Manager
Krebs Pigments Dept.

[CORPORATE SEAL]

ATTEST:

E. A. HOWARD
Assistant Secretary

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Exhibit E-2

TITANIUM PIGMENT COMPANY, INC.

By A. GARESCHÉ

Vice Pres.

[CORPORATE SEAL]

ATTEST:

M. Dow
Secretary

NATIONAL LEAD COMPANY

By FLETCHER MOCHARD

President.

[CORPORATE SEAL]

ATTEST:

N. O. BATES
Secy.

Form Approved
Legal Department

H. C. HASKELL
Asst. Director

Exhibit B-1.

TRANSLATED FROM THE FRENCH

23 rue Ballu.

July 12, 1927.

Titan Co. A/S
Fredrikstad, Norway.

Sirs,

We are in receipt of your letter of March 3, 1927, in which you kindly confirm to us the conditions of the grant of licenses.

We thank you for this and we are glad to give you our approval.

Yours very truly,

SOCIETE INDUSTRIELLE DU TITANE

An Administrator — (Sign.) Paul Gilbert

An Administrator — (Sign.) S. J. Henrikssen.

Exhibit B-3

TITAN COMPANY, INC.
7 West 10th Street
Wilmington, Delaware, U. S. A.

Paris, March 22nd 1939.

SJH/MH

Ch. F. Kaegebehn Esq.,
National Lead Co.
New York.

Dear Mr. Kaegebehn,

License Agreement Ste Industrielle du Titane.

In reply to your letter of March 10th, the situation as regards Societe Industrielle du Titane is, in a few words, that already in 1922 Titan Co.A/S made an arrangement with the French Company Societe Miniere Franco-Bresilienne regarding the sale of titanium in France, and it was foreseen to constitute a French Company with which Titan Co.A/S should enter into a license agreement according to a draft dated October 18th 1922.

As Société Industrielle du Titane was constituted in 1925 but the license agreement only executed by exchange of letters in 1927 (letter from Titan Co.A/S of March 3rd approved by Ste Industrielle du Titane with letter of July 12.1927), the draft agreement of 1922 had in the meantime and also later been referred to as the license agreement between Titan Co.A/S and Ste Industrielle du Titane.

Exhibit B-3

This practice has been discontinued later and we now refer to Titan Co.A/S's letter of March 3rd 1927.

You also mention the "protocol of May 1st 1925." In case you have no copy of this protocol, I may mention that it represents the agreement between the parties which finally, in 1925, organized Societe Industrielle du Titane, confirming the anticipated license agreement.

The letter of May 9. 1928 which you mention is a letter from Titan Co.A/S to Societe Industrielle du Titane which was approved by the latter company. It represents Societe Industrielle du Titane's approval of the license agreement with Titangesellschaft.

For your files and those of Mr. Cole I take pleasure in enclosing two copies each of the letter from Titan Co.A/S of March 3. 1927 and of Ste Titane's reply of July 12th as well as of the letter of May 9th 1928.

Yours very truly,

S. J. HENRIKSSEN

Encl.

Exhibit B-4

February 17th, 1939

SJH/AK

Societe Industrielle du Titane
26, Rue de la Pepiniere
Paris

Dear Sirs,

Re the extension of the exchange of patent licenses between Titan Company Inc. and it's associated titanium companies.

Referring to conference, we beg to confirm the following:

It has been the practice to exchange licenses in patent cases covering subject matters which are partly or wholly outside the Licensed Field as defined in the respective License Agreements, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. surphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed that when such patent applications or patents are offered by one associated company to the other associated companies, it means—unless reservations are

made—that the inventor company (respectively the company granting the license) as far as it is within its power is willing to give, on current agreement conditions, to the other companies rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

It is specifically understood that in cases where the receiving company (licensee) is not interested in an exclusive license for the purposes mentioned above, it will be reserved a non-exclusive license for these purposes.

This agreement is only to be applied to associated companies which in general act or will act reciprocally.

The expression "associated companies" as used above is meant to cover any company which has or will acquire a license of the character described in Article XIV, paragra.) of the agreement of 1920, and further the firm E. I. Du Pont de Nemours & Co., Wilmington, Delaware, U.S.A.

For the sake of order we should be obliged if you would kindly confirm your agreement to the above and remain,

Yours very truly,

TITAN COMPANY INC.

(signed) Dr. G. Jebsen
Vice President

Exhibit B-4

SJH/AK 10 Mars 39

Titan Company Inc.
Wilmington
Delaware
Etats-Unis

Messieurs:

Conc. l'extension de l'echange des licenses de Brevets entre la Titan Company Inc. et ses societes associees.

Nous vous remercions de votre lettre du 17 Febrier dernier et sommes heureux de vous donner notre accord.

Veuillez agreer, Messieurs, nos salutations distinguees.

SOCIETE INDUSTRIELLE DU TITANE

un administrateur — un administrateur

(sign.) C. Gilbert — (sign.) S. J. Henrikssen

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Exhibit D-1

COPY

No 256

GJ/HS

Paris, August 9th 1929

Dr. G. Jebsen

26 Rue de La Pépiniére, Paris 8e

Evans McCarty Esq.
c/o R. W. Greeff & Co Ltd.
Thames House
Queen Street Place
London E.C.4.

Dear Mr. McCarthy,

RE: *The transfers to Titan Co. Inc. of the rights and obligations of the Titan Co. A/S derived from the agreements of 3/20 October 1927 with the I.G.*

In the Memo of 17th July concerning three letters from the I.G. and one from T.G. m;b.H regarding the various transfers to T.Co.Inc. the paragraph 3 and 4 concerning the conditions for the transfer of the above mentioned rights a slip has occurred, as the condition mentioned under 1 and 2, that the Titan Co A/S also in the future remains responsible besides the Titan Co Inc. for all obligations, also pertains to these transfers.

This condition has also been provided for in the agreement of 1927, although there is a difference, as the agreement of 1927 can be interpreted in such a way "that the responsibility of T.Co.A/S only can be made effective after it is proved that the substitute (T.Co.Inc.) has not fulfilled its obligation, whereas the letters of June 15th requests that the Titan Co A/S shall remain responsible besides the T.Co.Inc".

Mr. Vogt has in a latter pointed out the difference in the interpretation of the agreement of 1927 as he sees it. He finds it reasonable though, that we accept the condition as expressed in the letters. Mr. Vogt will send me an English translation of his letter, which will be forwarded to you.

Dr. Brüggemann has pointed out to me, that the intention has always been the one expressed by the condition in the letter, and I think he is right.

I remember the permission in paragraph XIV Contract A. was only given after considerable argument.

I am sorry that the Memo is not complete, and further that the same slip has also occurred in the translations made at this office of the two letters of June 15th to Titan Co A/S from the I.G. and the T.G. m.b.H. In these two letters the words "besides you" should come after "The Titan Co. Inc. New-York".

The English translation as made by Mr. Mathias of Art. XIV, Agreement A. 1927 is:

"The Titan Co is entitled to substitute for itself in this "agreement and in the agreements with the Titangesell-"schaft mentioned hereunder in Par.4. and 9. (D. and J.) "or in several of them another company or other companies "in which the Titan Co or the National Lead Co together "or one of them, are engaged with 100%. In such a case

Exhibit D-1

"the new company entering into the contract has to take "upon itself the liability for the former partner besides the "latter in regard to the respective agreements"."

Yours very truly,

P.S.—Enclosed follows the corrected translation of the 2 letters of June 15th to Titan Co A/S from the I.G. and the T.G. m.b.H.

Encl.

Exhibit D-1

Translated from German

TITANGESELLSCHAFT M.B.H.

Leverkusen, June 15th 1929.

Titan Co A/S
Fredriksstad.

We hereby beg to declare, that we agree that the Titan Co Inc. of New-York, besides you, enters into all the rights and obligations which your Company has entered into according to the agreements of 3/20th October 1927 between you and ourselves.

The assumption for this agreement is that the National Lead Company of New-York participates and will continue to participate with at least 86% in the Titan Co. Inc., and that a reduction of this proportion of participation to the extent of 86%, can only be made after beforehand having obtained our express consent.

We ask you to please acknowledge receipt of this letter and at the same time expressly confirm to us your agreement to the above.

TITAN-Gesellschaft m.b.H.

(sign.) Kühne (sign.) Brüggemann

Exhibit D-1

Translated from German

I.G. Farbenindustrie Aktiengesellschaft

Leverkusen, June 15th 1929.

Titan Co A/S.
Fredriksstad.

Referring to the agreements of the 3rd/20th October 1927 entered into between you and us, regarding the production and the sale of Titanium and Titanium Compounds, we hereby declare that we agree, that the Titan Co. Inc. of New-York, besides you, enters into all the rights and obligations which your company has according to the agreements of the 3rd/20th October 1927 entered into between you and our firm, respectively the Titangesellschaft m.b.H.

The assumption for this agreement is that the National Lead Co of New-York participates and will continue to participate, with at least 86% in the Titan Co. Inc., and that a reduction of this proportion of participation to the extent of 86% can only be made after beforehand having obtained our express consent.

We ask you to expressly confirm to us by letter your agreement to the above, particularly the continuation of your liabilities according to the above mentioned agreements of the 3rd/20th October 1927.

I. G. Farbenindustrie Aktiengesellschaft

(sign.) Kühne Brüggemann

Exhibit E-3

AGREEMENT

This agreement, made and entered into this 1st day of January 1941, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation organized and existing under and by virtue of the laws of the State of New Jersey, and having a principal office and place of business in New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter called DU PONT) a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having a principal office and place of business in Wilmington, Delaware;

WITNESSETH,

WHEREAS, on January 1, 1933, THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT AND COLOR CORPORATION, a corporation organized and existing under the laws of the State of Delaware, entered into an agreement providing for the granting to each other of certain licenses under their respective inventions and within the "Licensed Field" defined in said agreement; and

WHEREAS, under an instrument dated January 1, 1936, by and between DU PONT, said TITANIUM PIGMENT COMPANY, INC., and said KREBS PIGMENT AND COLOR COPORATION, DU PONT became assigned of and assumed all of the rights and obligations of the KREBS PIGMENT AND COLOR CORPORATION under said January 1, 1933 agreement with-

Exhibit E-3

out changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, under an instrument dated October 31, 1936, by and between NATIONAL, said TITANIUM PIGMENT COMPANY, INC., and DU PONT, NATIONAL became assigned of and assumed all of the rights and obligations of THE TITANIUM PIGMENT COMPANY, INC. under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, NATIONAL and DU PONT, as the respective assignees under said agreement dated January 1, 1933 between THE TITANIUM PIGMENT COMPANY, INC. and KREBS PIGMENT AND COLOR CORPORATION, desire to amend the same;

NOW, THEREFORE, in consideration of the premises and the mutual promises, covenants and undertakings hereinafter set forth, it is hereby mutually agreed between NATIONAL and DU PONT that said January 1, 1933 agreement shall be and the same is hereby amended as follows, to-wit:

1. That Article I of said agreement be canceled and in lieu thereof the following article be substituted:

ARTICLE I

"The term 'Licensed Field', wherever herein employed shall be deemed to include (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent. (2%) or more of the

element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adapted for other uses, and also inorganic extenders to be used in conjunction with such titanium compounds; and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses; and also inorganic extenders to be used in conjunction with such titanium compounds; provided, however, titanated lithopone shall not be deemed as included within said Licensed Field."

2. That the first paragraph of Article II of said agreement be canceled and that the following be substituted therefor:

"NATIONAL and DU PONT, during the term of this agreement, grant to each other, within the limits of said Licensed Field and as to which NATIONAL or DU PONT is or shall be free to grant such rights, an irrevocable and non-exclusive right and license, throughout the United States of America, its territories, colonies and possessions, present and future:

(a) under all original or reissue Letters Patent of the United States, now or hereafter owned or controlled by either party;

(b) under all applications for Letters Patent of the United States now or hereafter owned or controlled by either party and which have been pending for a period of at least six months from date of filing by either party; and

(c) under all pending applications for Letters Patent of the United States purchased or acquired by NATIONAL or DU PONT from third parties, after the lapse of a period of

six months' time from their date of filing; provided, however, that in event any such application shall be pending for more than six months or shall issue to patent prior to expiration of said six months' period, the license herein provided for under any such application and/or patent shall be deemed to exist as of the date of such purchase or acquisition or the date of issue of said patent."

"It is understood and agreed that the rights vested in the parties hereto shall include the right to sell the products resulting from the use of any licensed process, method and apparatus of manufacture described in the licensed patents and/or applications, throughout the United States of America, its territories, colonies and possessions, present and future, Mexico, Central America, the West Indies, and South America."

3. That Article III of said agreement be canceled and in lieu thereof the following Article be substituted:

ARTICLE III

"Each party hereto agrees not later than six months from the date of filing of any application for Letters Patent of the United States which either party may file, purchase or acquire for any invention within the Licensed Field to make full disclosure to the other of the specifications and claims under any such application. It is understood and agreed that the disclosures contemplated by this Article shall be made only by and to officials specifically designated in writing for that purpose by the respective parties hereto."

4. That Article V of said agreement be canceled and in lieu thereof the following Article be substituted:

Exhibit E-3

ARTICLE V

"Each party hereto agrees during the term of this agreement to use its best efforts (but without any obligation to incur out-of-pocket expense) to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States original or reissue Letters Patent, or under any application for United States Letters Patent or reissue which has been pending for a period of not less than six (6) months from its filing date, owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

"DU PONT further agrees that not later than six months after the filing date of any licensed application for Letters Patent of the United States it will offer to any foreign associate of NATIONAL that may be designated by NATIONAL, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license, within the limits of the Licensed Field aforesaid, under any application or patent relating to the Licensed Field filed or issued in any country of Continental Europe or in Great Britain, which now is or hereafter and during the term of this agreement may be owned by or otherwise at the disposal of DU PONT."

5/ It is understood and agreed between the parties hereto that except as specifically modified hereinabove, each and all of the other provisions of said agreement of Janu-

ary 1, 1933 shall remain in full force and effect and that the amendment and cancellation herein provided for shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other under said January 1, 1933 agreement; that the licenses provided for in Article II of said agreement of January 1, 1933, as hereinabove amended, and excepting for the specific inclusion of inorganic extenders within the Licensed Field, shall not be construed as extending to or including any patent or application therefor which would not have been licensed by virtue of said January 1, 1933 agreement; that, further, the rights and obligations assumed by DU PONT herein shall not exceed those assumed by it under the above-mentioned January 1, 1936 assignment from Krebs to DU PONT; that the "Licensed Field", as herein defined, and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignment and shall not be deemed to include or apply to any methods, processes, apparatus, uses or products of DU PONT other than those which relate primarily to or come within the scope of the activities now regularly conducted by its Krebs Pigments Department; likewise, said Licensed Field and the rights and privileges granted in pursuance hereof and said agreement of January 1, 1933 shall be subject to all conditions of the aforesaid assignment and shall not be deemed to include or apply to any methods, processes, apparatus, uses or products of NATIONAL other than those which relate primarily to or come within the scope of the activities now regularly conducted by its Titanium Division.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed, in duplicate, by their respec-

tive proper officers, duly authorized, and their respective corporate seals to be hereunto affixed as of the day and year first above written.

NATIONAL LEAD COMPANY,

Approved
As to form
C.F.K.

By FLETCHER W. ROCKWELL
President

ATTEST:

H. O. BATES, Secy.

L.R.G.

E. I. DU PONT DE NEMOURS AND COMPANY,

By C. H. RUPPRECHT
Gen.Mgr.-Krebs Pigments Dept.

ATTEST:

H. C. Haskell

E. A. HOWARD
Assistant Secretary

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Exhibit F

THIS AGREEMENT made the 16th day of February 1933 BETWEEN IMPERIAL CHEMICAL INDUSTRIES LIMITED (hereinafter called "I.C.I.") of the first part IMPERIAL SMELTING CORPORATION LIMITED (hereinafter called "I.S.C.") of the second part GOODLASS WALL AND LEAD INDUSTRIES LIMITED (hereinafter called "G.W.") of the third part and TITAN COMPANY INCORPORATED a Company incorporated under the laws of the State of Delaware U.S.A. having an office at 111 Broadway New York City U.S.A. (hereinafter called "Titanine") of the fourth part.

WHEREAS:—

(1) The parties hereto have agreed to co-operate in the manufacture and sale of titanium and titanium compounds (which expression whenever used in this Agreement means substances materials and compositions in which the element titanium is contained in a chemically or physically combined state to the extent of more than Two per cent. but excluding simple mixtures).

(2) Titanine possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or

titanium dioxide which products are manufactured on an important scale in accordance with such patent rights and processes in factories at Leverkusen in Germany and at St. Louis U.S.A.

(3) These patent rights were acquired by Titaninc from Titan Company A/S of Norway which originally started this industry in Norway and in 1920 made an agreement with the Titanium Pigment Company Inc. U.S.A. (which carries on a similar industry in U.S.A.) with a view to close co-operation between those two Companies for the development of the industry.

(4) Titaninc has also made agreements with I.G. Farbenindustrie and with Titangesellschaft m.b.H. with a view to co-operation and the exchange of technical and chemical experience for the development of the titanium industry.

(5) I.S.C. has caused an English Company to be formed under the name of British Titan Products Limited with a nominal capital of £25,000. This Company is a private Company and so far only six shares of £1 each in the share capital of the Company have been taken up. This Company is hereinafter called "British Titan."

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. BRITISH TITAN shall have the sole right of manufacture and sale of titanium and titanium compounds throughout the British Empire as at present constituted (including British Protectorates and Mandated Territories but excluding Canada Newfoundland British Honduras Demerara the Falkland Islands the West Indies and islands

geographically appurtenant to the Continent of North America) and Egypt and all parties hereto will satisfy all their requirements for titanium compounds for manufacture therefrom and/or for sale in the British Empire as above defined by purchasing them from British Titan and will use all endeavours and take all measures in their power to ensure that their respective subsidiary and associated companies will satisfy their requirements in like manner. PROVIDED nevertheless that British Titan shall be able and willing at all times to supply such titanium compounds at competitive prices and of the qualities required.

2. TITANINC and British Titan shall forthwith enter into a License Agreement substantially in the form of the Draft Agreement set forth in the First Schedule hereto with such modifications therein if any as may be approved by all the parties to this Agreement and I.C.I. I.S.C. and G.W. shall each of them forthwith enter into a License Agreement with British Titan substantially in the form of the Draft set forth in the Second Schedule hereto with such modifications therein if any as may be approved by all the parties to this Agreement.

3. TITANINC shall forthwith enter into Agreements with British Titan for the transfer to British Titan of the existing business and goodwill of Titaninc in titanium products in the British Empire including British Protectorates and Mandated Territories (except Canada Newfoundland British Honduras Demerara the Falkland Islands and the West Indies and islands geographically appurtenant to the Continent of North America) and Egypt substantially in the form of the Draft Agreements set forth in the Third and

Fourth Schedules hereto with such modifications therein if any as may be approved by all the parties to this Agreement.

4. THE share capital of British Titan shall forthwith be reorganized as follows that is to say:

(*a*) The share capital shall be increased to £150,000 consisting of 25,000 "A" shares of £1 each which shall be issued for cash and 125,000 "B" shares of £1 each which shall be issued credited as fully paid up to Titaninc as consideration for the transfer by Titaninc to British Titan of the existing British business and goodwill of Titaninc in titanium products and the carrying out by Titaninc of the obligations imposed on it by the Agreement contained in the Third Schedule hereto.

The "A" shares shall carry the following rights:—

(1) The right to repayment of capital and arrears of dividend on a winding-up in priority to the "B" shares and to receive the whole of the surplus assets remaining after payment of the liabilities and payment in full of the capital and arrears of dividends of the "A" and "B" shares.

(2) The right to a first cumulative preferential dividend of 7 per cent. and also to the balance of the distributable profits after payment of a dividend on the "B" shares.

(3) The voting right of one vote per share.

The "B" shares shall carry the following rights:—

(1) The right to repayment of capital and arrears of dividend on a winding-up after the repayment of the capital and arrears of dividend of the "A" shares.

(2) The right to a fixed cumulative preferential dividend of 6 per cent. ranking after the fixed cumulative preferential dividend on the "A" shares.

(3) The right of one vote per share which however is only to be exercisable in relation to alterations of the rights of the "B" Shareholders or the winding up of the Company or the selling or approving of the sale of the business of the Company or in the event of the dividend on the "B" shares being in arrear on any date after the 31st day of December 1935.

5. THE "A" shares of British Titan shall be subscribed in cash at par in the following proportions:—

Titaninc	£12,250 or 49 per cent.
I.C.I.	£4,250 or 17 per cent.
I.S.C.	£4,250 or 17 per cent.
G.W.	£4,250 or 17 per cent.

and any further new share capital required shall be subscribed by the parties hereto in the like proportions by subscribing for further "A" shares in cash at par.

6. EXCEPT in so far as is otherwise herein provided during the continuance of this Agreement no party hereto shall transfer or part with the possession of any of its shares in British Titan except with the written consent of all the other parties to this Agreement and the transferee shall agree to be bound by all the obligations hereof so far as they are binding on the transferor PROVIDED that (1) on any holder of "A" shares transferring or parting with the possession of the whole of his "A" shares the provisions of Clause 11 hereof shall bind such holder for a period of five

years after the date of such transfer but so that nothing in the said Clause 11 shall restrict Titaninc or any of its allies or affiliated companies outside the British Empire (as herein defined) and Egypt (2) Titaninc shall be entitled to transfer or have allotted to R. W. Greeff & Co. Ltd. not more than 1,250 of its "A" shares and any other "A" shares which on a further issue of capital Titaninc would be entitled to subscribe in respect of any shares allotted or transferred to R. W. Greeff & Co. Ltd. in pursuance of this clause on such terms as it may think fit and for the purpose of the next succeeding clause of this Agreement such shares shall be deemed to be part of Titaninc's participation (3) that R. W. Greeff & Co. Ltd. shall be entitled at all times to re-transfer to Titaninc any of the said "A" shares so allotted or transferred to them free from the restriction contained in proviso (1), (4) that any party hereto shall be entitled to have any of its shares in British Titan allotted to or to transfer any of its said shares to any subsidiary Company in which it owns the whole of the share capital and any shares so held by any such subsidiary Company may be transferred to its parent company being a party hereto or to another subsidiary Company in which that party owns the whole of the share capital. Provided that the holding of any of such shares by any such subsidiary Company shall in no way relieve any party hereto from any of its obligations hereunder and Provided Also that if any such subsidiary Company shall cease to be wholly owned by its parent Company being a party hereto that party will procure the shares concerned to be transferred either to itself or to another subsidiary Company in which it owns the whole of the share capital and (5) that any party hereto shall be entitled to transfer to a nominee or nominees for

the purpose only of qualifying such nominee or nominees as a Director or Directors of British Titan such shares in British Titan as shall be necessary for that purpose.

The Articles of Association of British Titan shall provide that on any sale of "A" shares the same shall first be offered to the other holders of "A" shares and that if acceptances are received in respect of more shares than are offered the shares offered shall be transferred to the other holders proportionately to their respective holdings.

7. THE Board of British Titan shall consist of not more than six Directors of whom Titaninc shall be entitled to nominate and from time to time to remove and replace three and I.C.I. I.S.C. and G.W. shall each be entitled to nominate and from time to time to remove and replace one. In the event of a variation in the proportions of the "A" shares held by the various parties to this Agreement an adjustment shall be made in the proportional representation to which the parties are entitled on the Board of British Titan.

8. THE Chairman of the Board of British Titan shall be such one of the Directors nominated by I.C.I. I.S.C. and G.W. as may be agreed between the parties hereto and shall have a casting vote.

9. THE question of the erection of a factory in England by British Titan is to be left for the decision of the Board after full examination of the circumstances.

10. THE requisite alterations in the Articles of Association of British Titan shall be forthwith made to give effect to the provisions of this Agreement.

11. DURING the continuance of this Agreement I.C.I. I.S.C. and G.W. agree that they will not nor will any of

them deal in or manufacture titanium compounds, (as defined in Scheduled Agreement No. 1) except through or at the request of British Titan and these parties undertake to use all endeavours and take all measures in their power to ensure that their respective Subsidiary and Associated Companies shall observe the like restrictions. Provided nevertheless that this provision shall not apply to the manufacture and/or sale of Titanium tetrachloride by I.C.I. or any of its subsidiary or associated companies.

12. UNTIL British Titan has commenced to manufacture titanium compounds and for two years thereafter Titaninc will arrange for the supply of titanium compounds manufactured by Titangesellschaft Leverkusen Germany and Titaninc and British Titan will forthwith enter into an Agreement substantially in the form of the Draft Agreement set forth in the Fifth Schedule hereto with such modifications therein if any as may be agreed to by all the parties hereto.

13. SUBJECT to the provisions elsewhere contained in this Agreement and to the continued existence during that time of British Titan this Agreement shall remain in force for thirty years from the date hereof. If at or at any time after the expiration of that period any party shall wish to retire from the provisions of this Agreement it shall be entitled to do so provided it has previously given twelve months' notice in writing to that effect to the other parties hereto. Any party so retiring shall offer to the remaining parties the right to purchase the whole of the "A" shares in British Titan then held by the retiring party at a price to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any

values of patents trade marks or goodwill and in default of agreement the price shall be settled by arbitration in accordance with the provisions of the Arbitration Act 1889. Should the remaining parties be unwilling to purchase the whole of the "A" shares so offered to them by the retiring party the retiring party shall have the right to require British Titan to be voluntarily wound up and in that event each of the remaining parties shall use their voting power in British Titan to put that company into voluntary liquidation.

14. SHOULD the Agreement of 1920 referred to in the third recital to this Agreement cease or determine prior to the expiration of thirty years from the date of this Agreement each party to this Agreement shall have the right to retire from the provisions of this Agreement by giving to the other parties notice in writing to that effect within six calendar months of the date when notice of the cessation or determination of the said Agreement of 1920 is received by British Titan. Such retiring party or parties shall have similar obligations to those contained in the last preceding Clause of this Agreement to offer to the remaining parties the right to purchase the "A" shares in British Titan of such retiring party or parties and to require that Company to be wound up should the remaining parties be unwilling to purchase the whole of the "A" shares so offered to them. Save as expressly provided by this clause or by the preceding clause no party hereto shall without the consent of all the other parties hereto use its voting power in British Titan to put that Company into voluntary liquidation.

15. ON any party exercising his option under Clauses 13 or 14 hereof the provisions of Clause 11 hereof shall

bind him for a period of five years after the date when he ceases to be a shareholder unless British Titan is wound up in pursuance of either of the said Clauses 13 or 14 but as regards Titaninc nothing in the said Clause 11 shall restrict it or any of its subsiidary or associated Companies outside the British Empire (as herein defined) and Egypt.

IN WITNESS whereof the parties hereto have entered into these presents.

THE SCHEDULES.

FIRST SCHEDULE—AGREEMENT to be made between Titaninc and British Titan for exclusive licence for British Empire.

SECOND SCHEDULE—AGREEMENT to be made between I.C.I. I.S.C. and G.W. respectively and British Titan for exclusive licence for the world (with modifications applicable to I.C.I.)

THIRD SCHDULE—AGREEMENT between Titaninc and British Titan forming title to "B" shares in British Titan to be allotted to Titaninc for the consideration therein mentioned.

FOURTH SCHEDULE—AGREEMENT between Titaninc and British Titan for transfer of British Business and sale of Stocks (with Agency Agreement with R. W. Greeff & Co. Ltd. scheduled).

FIFTH SCHEDULE—AGREEMENT between Titaninc and British Titan for supply of Titanium products from Leverkusen.

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SCHEDULED AGREEMENT NO. 1.

AN AGREEMENT made the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U.S.A. and having an office at 111 Broadway New York U.S.A. (hereinafter referred to as "Titaninc" which expression includes its successors and permitted assigns) of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED a Company incorporated under the Laws of England and having its registered office at 95 Gresham Street London (hereinafter referred to as "British Titan" which expression includes its successors and permitted assigns) of the other part.

WHEREBY IT IS AGREED AND DECLARED as follows:—

ARTICLE I.

In this Agreement the under-mentioned expressions shall have the meanings set opposite to them respectivly as follows:—

(*a*) "Licensed Field" means and includes all methods and processes in the field of the manufacture of Titanium compounds containing two percent. or more of the element Titanium and also includes the Titanium compounds themselves.

By Titanium compounds is meant substances materials and compositions in which the element Titanium is contained in a chemically or physically combined state.

For instance composition pigments of the character of titanox belong to them. Simple mixtures do not come under this definition.

There are excluded from the Licensed Field substances materials or compositions which contain by weight more than 5 per cent. of a metal other than Titanium in its purely metallic (*i.e.* chemically uncombined) state.

(*b*) "North America" includes the entire continent of that name including U.S.A. Dominion of Canada Newfoundland Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the continent of North America and also the Philippine and Hawaiian Islands.

(*c*) "South America" similarly includes the entire continent of that name including all countries therein located to the South of Panama and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the said continent.

(*d*) "Finished Articles" means any artificially manufactured article or mixture which has been produced by the aid of any Titanium Compound within the Licensed Field in such a manner that the product constitutes a cohesive inter-mixture of such Titanium compound with other materials as for instance paint rubber glass etc.

(*e*) "Territory of British Titan" includes the whole of the British Empire as at present constituted including British Protectorates and Mandated Territories (except the Dominion of Canada Newfoundland British

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Honduras Demerara Falkland Islands and the West Indies and islands geographically appurtenant to the continent of North America) and Egypt.

(*f*) "Territory of Titaninc" includes all countries outside the Territory of British Titan.

(*g*) "Allied Companies" means all companies firms and commercial or industrial enterprises (other than British Titan Titaninc the Titanium Pigment Co. and licensees for the Territory of the Titanium Pigment Co.) which have received or shall receive a license of the nature referred to in Article XIV (*a*) of the Agreement of 1920 or in Article XIV hereof.

(*h*) "Agreement of 1920" means the Agreement dated 30th July 1920 between the Titanium Pigment Co. Inc. and the Titan Co. A/S since transferred to Titaninc.

ARTICLE II.

Titaninc grants and agrees to grant to British Titan for the territory of British Titan an exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field of which Titaninc now is or may hereafter become the beneficial owner or in respect of which Titaninc now is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field as to which Titaninc now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive licence solely for the purpose

of the production of titanium compounds within the Licensed Field with full rights throughout the territory of British Titan to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sub-licences wherever Titaninc has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

If Titaninc shall grant a licence in the Territory of British Titan in respect of any process involving the use or application of a Titanium compound such licence shall so far as may be lawful require that such compound shall only be purchased from British Titan or its sub-licensees unless in any particular case Titaninc satisfies British Titan that such a stipulation is impracticable.

No objection shall be made to customers of British Titan or of its exclusive licensees or sub-licensees selling Finished Articles in the Territory of Titaninc but so that any such sales to North America shall be kept within the limits imposed by the Note to Article VI (*c*) of the Agreement of 1920 but no such sales shall be made by British Titan itself.

Exclusive licences shall on the written request of British Titan be granted direct to Allied Companies in respect of the whole or any part of British Titan's Territory or in respect of all or any one or more of the patents or patent applications.

ARTICLE III.

British Titan grants and agrees to grant to Titaninc for the territory of Titaninc an exclusive licence in respect of all or any patents processes and subject matter within the

scope of the Licensed Field of which British Titan now is or may hereafter become the beneficial owner or in respect of which British Titan is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents processes and subject matter within the scope of the Licensed Field as to which British Titan now is or may hereafter become entitled to grant or is entitled to obtain the right to grant for such territory a non-exclusive licence solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of Titaninc to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sub-licences wherever British Titan has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

If British Titan shall grant a licence in the Territory of Titaninc in respect of any process involving the use or application of a Titanium compound such licence shall so far as may be lawful require that such compound shall only be purchased from Titaninc or its sub-licensees unless in any particular case British Titan satisfies Titaninc that such a stipulation is impracticable.

No objection shall be made to customers of Titaninc or its exclusive licensees or sub-licensees selling Finished Articles in the Territory of British Titan but no such sales shall be made by Titaninc itself. Provided however (i) any sales within the Territory of British Titan by customers of the Titanium Pigment Company in North America are to be kept within the limits imposed by the Note to Article VI (*c*) of the Agreement of 1920 and (ii) the Maritime Organisation of the Titan Company A/S (which deals

almost exclusively in supplying Scandinavian ships) shall be entitled to make any sales of paste and paint for ships in the Territory of British Titan. Titaninc shall upon request inform British Titan as to sales made in the Territory of British Titan by the said Maritime Organisation and will provide any further information that may be necessary to enable British Titan to form an opinion as to the size of the business and sales and if the business and sales to ships other than Scandinavian ships should become sufficiently important as to interfere substantially with British Titan's sales of its own Titanium products within its territory Titaninc agrees on being satisfied of such interference to take all reasonable steps to bring about the limitation of such business and sales to dimensions which will cause no such interference.

Exclusive licences shall on the written request of Titaninc be granted direct to Allied Companies in respect of the whole or any part of Titaninc's Territory or in respect of all or any one or more of the patents or patent applications.

Article IV

Except to the extent provided for in the preceding Articles II and III hereof or as may be otherwise specifically agreed between the parties hereto neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the Territory of the other party any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

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If either party should at any time permit the other party to sell within or for importation into the territory of the first party any products within the scope of the Licensed Field the following provisions shall have effect:—

(1) The party to whom such permission is granted (herein called "the Principal Party") shall make such sale or procure such sale to be made through the agency of the party granting such permission (herein referred to as "the Agent Party").

(2) Each party irrevocably appoints the other party its exclusive agent for the sale of the said products in the territory of such other party.

(3) Such appointment shall continue so long as the Principal Party has the right to an exclusive licence from the Agent Party.

(4) In the case of North America British Titan shall appoint the Titanium Pigment Co. its exclusive agent in accordance with the provisions of Article VI (*c*) of the Agreement of 1920 but British Titan shall only deal with its agent through Titaninc and all sales to be made by such agent shall depend on the consent of Titaninc.

(5) The Principal Party on the written request of the Agent Party shall appoint as exclusive agent an Allied Company which has received an exclusive licence for any part of its territory to which such licence relates.

(6) The Agent Party may fix its own prices and conditions for the re-sale of any such products but the Principal Party shall not be obliged to effect sales against any orders of which it does not approve.

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(7) Each party undertakes to endeavor to prevent its customers from competing with the other in that other's territory to its detriment in the sale of Finished Articles permitted under Articles II and III respectively. The measures to be taken for this purpose are to be discussed and agreed on from time to time.

ARTICLE V.

The parties hereto mutually agree with each other to observe and perform the following obligations viz:—

(a) 1. Either party whenever it files an application for Letters Patent on an invention in the Licensed Field, shall within two months from the date of filing send a copy thereof to the other party with information as to the countries or places included in the territory of the other party in which such applicant party will file an application on such invention. The other party shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application for patent cause the applicant party to be informed by suitable notice which country or countries included in its territory such other party its licensees and/or sub-licensees request applications for patent on the said invention to be filed therein. The applicant party must then file an application for patent on the invention in each of the countries so designated to it and prosecute the same with care and diligence to patent.

2. The applicant party has the right to file applications for patent in its own name in the territory of the other party before receiving any information from the

other party as to the filing of such applications for patent as hereinbefore provided.

3. If either party hereto shall receive information as to the application by any other person firm or company for Letters Patent in the Licensed Field in respect of which it shall be entitled to an exclusive licence or to grant an exclusive licence it shall forthwith pass on such information to the other party as if it had itself applied for such Letters Patent under the foregoing clauses.

(*b*) Either party hereto may relieve itself of the obligations assumed by it under sub-clause (*a*) 1 hereof with respect to any or all of the countries designated by the other party by sending by registered mail to the other party within two months of the time of its receipt of said notice of designation from the other party a copy of the said application for patent on the invention with all papers necessary to permit the filing of an application in the country or countries within the territory with respect to which an exclusive licence has been therein granted or is contemplated by this Agreement to the other party and so far as possible under the provisions of the International Convention for the protection of Industrial Property and with the necessary papers for vesting the ownership thereof as distinguished from a licence in such other party.

(*c*) Each party hereto shall make all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licences are hereby granted or provided for

such payments to be ultimately divided as provided in Article VI (*d*) hereof.

With respect to patents of British Titan in North America Titaninc shall be entitled to make the payments in the name of British Titan and to debit them for each payment. British Titan shall within reasonable time before any such payment becomes due inform Titaninc of the due date thereof to enable such payments to be made in a regular manner and without difficulty.

(*d*) Either party hereto may relieve itself of its obligation to pay any part of the expenses of obtaining defending maintaining or prolonging any Letters Patent or Application for Letters Patent with respect to which an exclusive licence in favour of such party is at the time in force by delivering to the other party owning or controlling the same a full and duly executed Release of the exclusive licence of such party thereunder in which case the party so renouncing its right shall have a non-exclusive licence in respect of the same.

Where the owner or controller of a patent or patent application is as regards Titaninc an Allied Company the Release shall be sent to Titaninc and not to such owner or controller.

(*e*) Either party hereto may relieve itself of its obligation to pay its share of the expenses of maintaining and defending any Letters Patent owned or controlled by it and with respect to which an exclusive licence in favour of the other party is hereby granted or provided for by delivering to the other party (the exclusive licencee thereunder) a full complete and duly executed assignment of all the right title and interest of such party in and to the same.

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(*f*) Either party hereto or any exclusive licensee or sub-licensee under any Patent hereunder shall be entitled at its own expense (but subject to the provisions of Article VI (*d*) in the case of the defence of any action brought to annul or cancel any Letters Patent) to institute and/or defend any action regarding any patent in the Licensed Field in any territory with respect to which an exclusive licence or sub-licence to such party is hereby granted or provided for and in particular to restrain or to recover damages penalties or profits for infringement and to receive for its own benefit any sums recovered by such action using where necessary but under indemnity the name of the owner of the patent. The party taking such steps must before so doing provide satisfactory security to the owner of the patent for such indemnity. Notice shall be given by the party taking such steps to the owner or controller of the patent in question who may if it shall so elect enter at its own expense into such litigation and any damages recovered shall in such case be divided between the parties in such manner as they shall agree to be fair and equitable.

ARTICLE VI.

The exclusive licences herein provided for shall be expressly stated or shall be deemed to be given and accepted and their continuance dependent upon the following conditions:—

(*a*) That the licensee shall neither directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the licence nor directly or indirectly

connive with or afford any pecuniary or other assistance to a contestant or questioner of such validity.

(*b*) British Titan shall pay to Titaninc a royalty of 25 Norwegian Kroner for every metric ton of 1,000 Kg. of titanium dioxide (TiO_2) or its equivalent (if other compounds of titanium are produced) produced by it or its licensees or sub-licensees in any calendar year up to and including the year 1936. Such royalty shall be paid twice yearly as soon as practicable before the 31st January and 31st July in every year and shall be accompanied by a statement showing the production during the six months ended 31st December or 30th June as the case may be on which such royalty is payable. Titaninc shall have the right to have the statement checked by some accountant or other person acceptable to British Titan or in the event of disagreement to be appointed by the President for the time being of the Institute of Chartered Accountants in London. After the cesser of the said royalty British Titan shall continue to submit to Titaninc half-yearly statements of production.

(*c*) The Licensee shall faithfully perform and observe the obligations of Article IV hereof so far as they are applicable to the Licensee.

(*d*) The future cost of paying taxes fees and other periodical sums necessary for maintaining or prolonging any Letters Patent with respect to which exclusive licences are hereby granted or provided for the future cost of defending suits brought to annul or cancel said Letters Patent or any of them and the future cost of obtaining Letters Patent as provided for in section (*a*)

of Article V hereof shall be equally divided between Titanine and British Titan and the party making such payments shall be reimbursed by the other party for its share of the said payments within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

(*e*) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licences herein referred to and also all patents and the maintenance and enforcement of the same and the preparation filing and prosecution of applications for patents.

(*f*) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in this Article VI the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made the exclusive licence hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be determined by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of licence shall operate to relieve the aggrieved party from its own obligations under this Agreement nor terminate the exclusive licence or sub-licences granted to it hereunder.

(*g*) British Titan as received of the sub-licences from the Titanium Pigment Company assumes all the

obligations of Article XIV (*a*) of the Agreement of 1920 (except sub-section 1 which is to be substituted by a clause similar in all respects to Clause VI (*b*) hereof so far as refers to statements of production and sub-section 3 which is to substituted by clauses similar in all respects to Clauses V (*a*) and (*b*) hereof) and as regards such sub-licences where such obligations differ from those hereunder the obligations under the said Article XIV (*a*) (with the above exceptions) shall prevail.

ARTICLE VII.

EACH party hereto agrees that it will co-operate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the Licensed Field and will permit the other party by its duly accredited representatives during business hours to inspect study and enquire into any of its plants where work in the Licensed Field is being done exclusive of its research laboratories provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article VIII.

ARTICLE VIII.

EACH party hereto agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of

them prior to the time herein fixed for the termination of the exclusive licences and of any extension of such time.

ARTICLE IX.

EACH party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavour to provide that such rights shall extend to all countries or places within the territory with respect to which any licence to the other party hereunder is hereby granted or provided for.

ARTICLE X.

(*a*) THE exclusive licences hereby granted or provided for shall remain in force for the longest period for which the respective parties have power to grant such licences provided however that such licences shall terminate if and when Titaninc or its successors and/or its subsidiary Companies shall cease to own in total at least 25 per cent. of the issued "A" shares of British Titan. Should such ownership cease each of the parties hereto shall receive a non-exclusive licence (for itself as well as for all licensees and sub-licensees who have received or may receive a license for use within the parties' respective territories) for the longest term which it is then possible to grant for their respective territories for all inventions patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obtain the right to grant such licence. All other rights obligations and liabilities under this Agreement shall cease.

(*b*) IF any agreement between one of the parties hereto and one of the Allied Companies should terminate such party has the right to determine the licences which the

parties hereto or either of them have received from such Allied Company. In case such licences are not executed by the party hereto which was party to the Agreement with the Allied Company the other party hereto and the Allied Company in question shall have the right and the obligation mutually to grant non-exclusive licences in manner provided in paragraph (*a*) above. Mutual rights and obligations remain otherwise as agreed in this Agreement.

(*c*) SHOULD the Agreement of 1920 and exclusive licences received or granted under that Agreement terminate before the termination of this present Agreement British Titan has the right only to non-exclusive licences so far as they result from the Agreement of 1920 and British Titan shall if Titaninc so requires determine the exclusive licences granted to the Titanium Pigment Company by British Titan and substitute them by non-exclusive licences in accordance with Article X of the 1920 Agreement and to give to Titaninc the right to a licence which shall be exclusive except for the licence to the Titanium Pigment Company and any sub-licences granted by it.

THE termination of the Agreement of 1920 shall not affect the mutual rights and obligations of Titaninc and British Titan regarding the exclusive exploitation of their patents and inventions until the termination of the present Agreement.

ARTICLE XI.

THE option contained in Clause XI of the Agreement of 1920 having lapsed South America is open to both Titaninc and the Titanium Pigment Company under the terms of the 1920 Agreement.

ARTICLE XII.

THE interest of either party hereto may be assigned *in toto* but not otherwise and only in connection with the transfer of the entire business of such party to any person firm association or corporation which assumes the obligations of such party and this Agreement in all respects shall be obligatory not only upon each of the parties hereto respectively but also upon their respective assigns successors and legal representatives.

ARTICLE XIII.

IT is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties the control of which is held by either party hereto to the end that the terms of this Agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

ARTICLE XIV.

EITHER party hereto shall have the right so long as its exclusive licences hereunder shall be in force and shall not have been terminated by forfeiture to grant sub-licences hereunder but neither party hereto shall grant any licence under its own patents or any sub-licence hereunder in the Licensed Field except for the production of Titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sub-licensee of one of the parties. If any such licence or sub-licence is for the production of Titanium compounds or for the manufacture therefrom of any product definable by the term "Pigment" and as such utilizable in the composition of any commodity then every such licence or sub-licence shall be in

writing and shall on the face thereof be expressly stated to be given and accepted and its continuance to be dependent upon the following express conditions which shall be binding on the Licensee or sub-Licensee as the case may be.

(*a*) To render to its Licensor on or before the last day of January and July of each year true and correct statements in writing as to its production in the Licensed Field during the six months preceding the month in which such return is made. The Licensor shall have the right to have such statements verified either by oath or by some accountant appointed by the Licensor as the Licensee shall prefer.

(*b*) To assume towards its Licensor in respect of its (the Licensee's or sub-Licensee's) inventions and patents in the Licensed Field the same obligations as are assumed by the Licensor under Articles II and III of this Agreement.

(*c*) To assume towards its Licensor the same obligations regarding its patents and inventions as are assumed by the parties hereto towards each other under Articles V (*a*) and (*b*) of this Agreement.

(*d*) To assume upon itself the obligations of Article VI (*a*) hereof.

(*e*) To appoint as its sole agent in the territory of such party in accordance with the conditions set forth in Article IV hereof its Licensor or some nominee of its Licensor.

(*f*) To agree to assume in respect of its Licensor the obligations assumed by its Licensor in respect to the other party hereto in Article VII hereof and also to

assume similar obligations to those assumed by its Licensor under Article VIII hereof.

(*g*) That if the Licensee or sub-Licensee violates or neglects performance of any of the conditions above recited to be assumed by it the Licensor may by registered mail thereto duly addressed notify the Licensee or sub-Licensee accordingly and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made then and in that event the Licensor may at its option terminate the licence or sub-licence by notice to that effect sent by registered mail to the Licensee or sub-Licensee.

Each of the parties hereto agrees that it will whenever it grants a licence or sub-licence in the Licensed Field or cancels the same or is notified of any breach thereof promptly notify the other party hereto giving him the name and address of the Licensee or sub-Licensee and information as to the character scope and duration of the licence or sub-licence.

Article XV.

It is intended that the mark "Kronos" for use in the territory of British Titan shall be assigned to it. British Titan will use this mark only for qualities which are equal to or better than the quality "Standard" now used by Titaninc.

Article XVI.

Where any patent is registered in the name of Titan Company A/S Titaninc will procure that any licence there-

of to be granted hereunder to British Titan shall be executed by the Titan Company A/S or alternatively shall cause the patent to be registered in its name before any licence thereof is executed.

ARTICLE XVII.

ALL notices to Titaninc may be sent by registered post addressed to it at its said principal office in New York City. All notices to British Titan may be sent by registered post addressed to it at its registered office. Either party may at any time or from time to time by notice in writing substitute a new address in lieu of this address above set forth.

ARTICLE XVIII.

THIS Agreement shall be construed according to the Law of England.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

Exhibit F-2

SCHEDULED AGREEMENT NO. 2.

AN AGREEMENT made the 10 day of March 1933 BETWEEN

whose Registered Office is situate at

(hereinafter called "the Grantor") of the one part and BRITISH TITAN PRODUCTS COMPANY, LIMITED a Company (incorporated under the Companies Act 1929 whose Registered Office is situate at 95 Gresham Street London England (hereinafter called "British Titan") of the other part.

WHEREBY IT IS AGREED by and between the parties hereto as follows:—

1. THE Grantor grants and agrees to grant to British Titan an exclusive licence in respect of all and any patents processes and subject matter within the scope of the Licensed Field as hereinafter defined of which the Grantor now is or may hereafter become the beneficial owner or in respect of which the Grantor now is or may hereafter become entitled to grant an exclusive licence and a non-exclusive licence in respect of all and any patents processes and subject matter within the scope of the Licensed Field as to which the Grantor now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant a non-exclusive licence solely for the purpose of the production of Titanium compounds within the Licensed Field with full rights to manufacture and/or use and/or sell Titanium compounds so produced and with the right to grant sublicences wherever the Grantor has or is entitled to obtain

power to confer such right subject always to the conditions contained in this Agreement.

The term "Licensed Field" herein means all methods and processes in the field of the manufacture of Titanium compounds containing Two per cent. (2%) or more of the element Titanium as well as the Titanium compounds themselves and "Titanium Compounds" means substances materials and compositions in which the element Titanium is contained in a chemically or physically combined state. For instance the composition pigments of the character of titanox belong to them. Simple mixtures do not come under this definition.

There are excluded from the Licensed Field substances materials or compositions which contain by weight more than 5 per cent. of a metal other than Titanium in its purely metallic (*i.e.* chemically uncombined) state.

2. WHENEVER the Grantor files an application for Letters Patent on an invention in the Licensed Field the Grantor shall within two months from the date of filing send a copy thereof to British Titan. British Titan shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application inform the Grantor in which country or countries British Titan desires applications for patents on the said invention to be filed. The Grantor shall then file the requisite application in that country or those countries and prosecute the same with care and diligence until the requisite patents are obtained and the Grantor may also if it thinks fit file such an application without waiting for the reply of British Titan. As regards any such invention for which British Titan shall not desire an exclusive licence or any country or countries in which it shall not desire such exclusive licence the Grantor shall be entitled to take out a patent or patents for its own benefit.

Exhibit F-2

3. THE Grantor shall be charged with the duty of making all payments lawfully required to maintain and prolong any Letters Patent in the Licensed Field belonging to or controlled by the Grantor but only so long as British Titan continues to hold an exclusive licence in respect thereof provided that the Grantor shall before ceasing to make any such payments give notice to British Titan that it intends so to do and if British Titan desires to keep such Letters Patent alive it may make such payments itself and the Grantor shall at the expense and cost of British Titan execute and do such documents acts and things as may be necessary or requisite for that purpose.

4. THE expenses involved in obtaining maintaining or defending any Letters Patent in the Licensed Field belonging to or controlled by the Grantor and paid by the Grantor under the two last preceding clauses shall be reimbursed to the Grantor by British Titan so long as British Titan desires to retain an exclsive licence under such patent. British Titan is relieved of this obligation when the exclusive licence is renounced by it or otherwise terminates in which case British Titan shall be entitled to a non-exclusive licence.

5. THE Grantor agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time hereby fixed for the termination of the exclusive licence hereby granted.

6. THE exclusive licence hereby granted shall last as long as the Grantor or any of its subsidiary Companies continues to own shares in British Titan. Should such owner-

ship cease so that neither the Grantor nor any of its subsidiary Companies own shares in British Titan then British Titan shall be entitled at once to receive (for itself and for all licensees and sub-licensees who have received or may subsequently receive a licence from British Titan) a non-exclusive licence in respect of all or any of the said patents and processes of which the Grantor is then the beneficial owner or in respect of which the Grantor is then entitled to grant a non-exclusive licence.

7. BRITISH TITAN and any exclusive sub-licensee of any of its rights in respect of the said patents and processes shall be entitled at its own expense to bring suit to restrain and to recover damages and penalties and profits for infringement of a patent in the Licensed Field and to receive for its own benefit any sums recovered by any such suit using if necessary but under indemnity the name of the Grantor. The Grantor shall be notified of any such suit immediately upon its institution and shall be entitled if it shall so elect to intervene at its own expense in any such litigation. The party instituting any such suit shall first give a satisfactory security to the Grantor against any expense or liability on the part of the Grantor resulting from such proceedings.

8. (*a*) BRITISH TITAN shall never directly or indirectly question or contest the validity of any patent under which it is licensed in pursuance of this Deed nor use nor infringe the same except as licensed nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

(*b*) The Grantor shall never directly or indirectly question or contest the validity of any patent of British Titan or of the companies co-operating with British Titan in any

part of the world in the Licensed Field nor infringe the same nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

9. THE Grantor undertakes to use all endeavours and take all measures in its power to ensure that its allied and affiliated companies shall respect this Agreement as if they were parties to it and that they shall do nothing contrary to the interests in the Licensed Field of British Titan or its sub-licensees.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

NOTE.—The foregoing Agreement will be signed by I.C.I. but with the following modifications namely:—

(a) The licences to be granted will be given in respect of all patents, processes and subject matter relating to the manufacture of Titanium oxide or Titanium pigments of which I.C.I. may hereafter become possessed and be free to dispose of. The terms "Titanium oxide" and "Titanium pigments" mean those in which the element Titanium is contained in a chemically or physically combined state; for instance the composition pigments of the character of Titanox belong to them. Simple mixtures do not come under this definition.

(*b*) Except as mentioned below there will be no reference to the Licensed Field and references to patents or inventions covered by the Agreement shall be substituted for references to the Licensed Field.

(*c*) In Clauses 8 (*b*) and 9 reference to the Licensed Field will be retained and shall refer to the Licensed Field as defined in the foregoing Agreement.

Exhibit F-3

SCHEDULED AGREEMENT NO. 3.

AN AGREEMENT dated the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its Registered Office at 95 Gresham Street London England (hereinafter referred to as "British Titan") of the other part.

WHEREAS the share capital of British Titan is £150,000 divided into 25,000 "A" shares of £1 each carrying a fixed cumulative preferential dividend of 7 per cent. per annum and the balance of the distributable profits after payment of the dividend on the "B" shares hereinafter mentioned and the right in a winding up to repayment of the capital paid up thereon and arrears of cumulative dividend in priority to the repayment of capital and arrears of cumulative dividend on the "B" shares and also to the whole of the surplus assets; and 125,000 "B" shares of £1 each carrying the right to a fixed cumulative preferential dividend of 6 per cent. per annum ranking after the fixed cumulative dividend on the "A" shares and the right in a winding up to payment off of capital and arrears of cumulative dividend after repayment of the capital and arrears of cumulative dividend on the "A" shares.

Exhibit F-3

NOW IT IS HEREBY AGREED AND DECLARED as follows:—

1. TITANINC shall transfer to British Titan the existing business and goodwill in Titanium products in the British Empire in accordance with a Draft Agreement already prepared and signed for identification by the parties thereto.

2. TITANINC also agrees to give and make available to British Titan all technical knowledge and experience at its disposal in the manufacture of Titanium products or relating to the marketing thereof in the British Empire.

3. IN consideration of the foregoing British Titan agrees to allot to Titaninc 125,000 "B" shares of £1 each of British Titan credited as fully-paid and numbered to inclusive.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

Exhibit F-4

SCHEDULED AGREEMENT NO 4

AN AGREEMENT made the 10th day of March — 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U.S.A. and having an office at 111 Broadway New York City U.S.A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its registered office at 95 Gresham Street London England (hereinafter referred to as "British Titan") of the other part.

WHEREAS:—

1. Under an Agreement dated the 19th day of July 1929 and made between Titan Co. A/S of Fredriksstad Norway of the one part and R. W. Greeff & Co. Ltd. of Thames House Queen Street Place London (hereinafter called Greeffs) of the other part Greeffs agreed to promote the sales of Titanium products in the United Kingdom and elsewhere as therein mentioned and to maintain a commercial and technical organisation the cost of which was to be borne by the said Titan Co. A/S and Greeffs became sole vendors of the said products in the said territory.

2. The interests of the said Titan Co. A/S in the said Agreement has become vested in Titaninc but the business is still being carried on in the name of the said Titan Co. A/S.

Exhibit F-4

3. The course of business between Titaninc and Greeffs under the said Agreement has been for Titaninc to charge as the price of the said products sold to Greeffs a sum equivalent to certain fixed percentages below the price at which such goods are re-sold by Greeffs such re-selling price being fixed from time to time by Titaninc.

4. There are certain stocks of Titanium products in the United Kingdom which belong to Greeffs but which are at the disposal of Titaninc.

5. Titaninc has agreed to transfer to British Titan the whole of its interest and business in connection with Titanium products in the British Empire including British Protectorates and Mandated Territories (excluding Canada Newfoundland British Honduras Demerara the Falkland Islands and the West Indies) and Egypt.

6. It is the intention that the said stocks of Titanium products in the United Kingdom shall be transferred to British Titan and that Greeffs shall act as agents of British Titan.

7. Titaninc is the owner of certain Trade Marks registered in the name of the Titan Co. A/S. and mentioned in the First Schedule hereto which are used in connection with the business.

NOW IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. THE said stocks of Titanium products now in the the United Kingdom shall be sold by Titaninc to British Titan at a price representing the cost for 1932 charged by

the manufacturers to Titaninc plus all extra charges already paid in respect of the said stocks including freight insurance import duty landing and storage charges.

2. AN inventory shall be made of the said stocks which are now lying in warehouses in the name of Greeffs on some convenient date to be agreed between the parties as the date for completion and the said inventory together with warrants or receipts for the stocks will be handed over to British Titan against payment of the purchase price together with an acknowledgment by Greeffs that they hold such stocks as are not covered by warrants or receipts in the name of British Titan for account of British Titan. All current contracts for sale shall be taken over by British Titan who shall indemnify Greeffs against any future liability thereunder.

3. TITANINC shall procure the transfer from Titan Co. A/S to British Titan of the registered Trade Marks mentioned in the First Schedule hereto together with the business and goodwill of the business carried on by Titan Co. A/S for account of Titaninc relating to the sale of goods of the class in respect of which the said Trade Mark is registered together with any other Trade Marks belonging to it and relating to the said business agreed to be transferred to British Titan.

4. TITANINC will procure that Greeffs shall enter into an Agreement with British Titan in the form contained in the Second Schedule hereto with such modifications if any as may be agreed between the parties hereto and that the existing Agreement of 19th July 1929 shall be cancelled

Exhibit F-4

such agreement and cancellation to operate from the date of completion.

5. TITANINC shall also take such steps as may be necessary to vest in British Titan the benefit of its business and stock in other parts of the British Empire (as above defined) and Egypt not covered by the foregoing clauses, payment being made for any stocks transferred in similar manner to that provided in clause 1 hereof.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

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Exhibit F-4

FIRST SCHEDULE ABOVE REFERRED TO.
LIST OF TRADE MARKS

Country.	Trade Mark.	Number.	Class of Goods.
England	"KRONOS"	381514	Class No. 1—Chemical substances containing Titanium products and mineral pigments, all being goods included in Class 1.
England	"KRONOS"	402878	Class No. 4.—Raw or party prepared vegetable, animal or mineral substances used in manufactures not included in other classes.
England	"KRONOS"	402879	Class No. 17—Manufactures from mineral and other substances for building and decoration.
England	"TITAN DEVICE"	388646.	Class No. 1—Chemical substances containing Titanium products and mineral pigments all being goods included in Class 1.
Irish Free State	"KRONOS"	2241.	Dyes, Colours, Paints, Varnishes and Stains.
Irish Free State	"TITAN DEVICE"	2240	Dyes, Colours, Paints, Varnishes and Stains.
Australia	"KRONOS"	25451	Class No. 1—Chemical substances used in manufactures, photography or philosophical research and anti-corrosives.
Australia	"KRONOS"	28376	Class No. 4—Raw or partly prepared vegetable, animal and mineral substances used in manufactures not included in other classes.
Australia	"KRONDS"	28377	Class No. 17—Manufactures from mineral and other substances for building and decoration.

Exhibit F-4

FIRST SCHEDULE—*continued*

Country.	Trade Mark.	Number.	Class of Goods.
Australia	"TITAN DEVICE"	25452	Class No. 1—Chemical substances used in manufactures, photography or philosophical research and anti-corrosives.
British India	"KRONOS"	21/1920	Chemical substances containing Titanium products and mineral pigments, all being goods included in Class No. 1.
British India	"KRONOS"	1567/1920	Manufactures from mineral and other substances for building or decoration.
British India	"KRONOS"	1568/1920	Raw or partly prepared vegetable, animal and mineral substances, for use in manufactures.
British India	"TITAN DEVICE"	501/1920	Chemical substances used in manufactures, photography and philosophical research and anti-corrosives and more particularly chemical substances containing Titanium products and pigments.
Egypt	"KRONOS"	Cairo 595/45° Alexandria 111 Mansourah 206/45°	Chemical substances used in manufactures, photography or philosophical research, and anti-corrosives, particularly chemical substances containing Titanium products and mineral pigments; partly prepared vegetable, animal and mineral substances used in manufactures. Articles manufactured from mineral and other substances for building and decoration.
Egypt	"TITAN DEVICE"	Cairo 609/45° Alexandria 112 Mansourah 205/45°	As for "Kronos."

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Exhibit F-4

FIRST SCHEDULE—*continued*

Country.	Trade Mark.	Number.	Class of Goods.
New Zealand	"KRONOS"	15644	Class 1—Chemical substances used in manufactures, photography and philosophical research and anti-corrosives.
New Zealand	"KRONOS"	17003	Class 4—Raw or partly prepared vegetable, animal and mineral substances used in manufactures not included in other classes.
New Zealand	"KRONOS"	17004	Class 17—Manufactures from mineral and other substances for building and decoration.
New Zealand	"TITAN DEVICE"	15645 (with inscription "Titan Co. A/S Norway" only)	Class 1—Chemical substances used in manufactures, photography and philosophical research and anti-corrosives.
South Africa	"KRONOS"	663/1919	Class 1.
South Africa	"KRONOS"	903/1920	Class 4.
South Africa	"KRONOS"	904/1920	Class 17.
South Africa	"TITAN DEVICE"	662/1919 (with inscription "Titan Co. A/S Norway" only)	Class 1.

Exhibit F-5

THE SECOND SCHEDULE ABOVE REFERRED TO.

AN AGREEMENT made this 10th day of March 1933 Between BRITISH TITAN PRODUCTS COMPANY LIMITED of 95 Gresham Street E.C.2 (hereinafter called "the Manufacturers" of the one part and R. W. GREEFF & COMPANY LIMITED of Thames House Queen Street Place London E.C.4 (hereinafter called "the Agents") of the other part WHEREBY IT IS AGREED as follows:—

1. THE Agents agree to use their best efforts to promote the sale in the United Kingdom Ireland Australia New Zealand and Malta (hereinafter called "the Agents' territory") of the Titanium Pigments for which the Manufacturers hold or shall hold exclusive licenses (hereinafter called "Titan products") and will during the currency of this Agreement maintain a suitable commercial and technical organisation—the cost of the technical organisation covering for the present and until mutually agreed otherwise Mr. Noel Heaton and one assistant the laboratory at 81 Queen Victoria Street London E.C. and all expenses attendant thereon to be reimbursed to the Agents by the Manufacturers according to a budget to be agreed upon in advance.

2. IN consideration of the Manufacturers reimbursing the Agents for the cost of laboratory operations and the salaries of the staff employed by them for the technical work on Titanium matters (until further notice Mr. Noel Heaton

and his assistant) in accordance with a yearly budget to be agreed upon between the Agents and the Manufacturers the work done by these gentlemen shall be the property of the Manufacturers and at their disposal also any inventions and patent rights which may be arrived at. No patents to be applied for without the Manufacturers' consent and the staff to agree to assist in the application for and obtaining of these patents to the extent that this is considered desirable or necessary by the Manufacturers. The members of the staff to undertake the obligation also to transfer to the Manufacturers any inventions or patent rights in the field of the work done during their engagement as well as in Titanium matters in gene[illegible] period of at least two years after the e[illegible] of their engagement. Should the Agents find it impossible to obtain this condition they will confer with the Manufacturers before entering into agreements with the staff. Members of the staff also undertake that for a period of 12 months after the determination of their services with the Agents they will not accept a situation with any firm directly competing with the Agents in Titan products.

3. The Agents shall not sell Titan products for export outside the Agents' territory, nor shall the Agents enter into any contract providing for the delivery of more than fifty tons of Titan products to any one customer at any one time without imposing the above-mentioned restrictions on any such customer and reserving the right to cancel all future deliveries on the breach of the said restrictions by any such customer and upon being called upon by Manufacturers will exercise such right of cancellation. Nothing contaned in this clause shall prevent the export to any part of the world by the customers of Titan products in a *bona fide*

manufactured form except that Titan products in any form shall not be exported by the customer to the American Continent north of the Panama Canal and islands adjacent thereto.

4. DURING the period of this Agreement subject as hereinafter mentioned the Manufacturers will not without the consent of the Agents knowingly sell Titan products to any other person firm or company carrying on business in the Agents' territory or for shipment to any point in the Agents' territory and the Agents will not buy or sell or act as Agents for any of the Titan products from other sources than the Manufacturers.

5. COMMISSION allowed to the Agents by the Manufacturers on the net invoice prices shall be five per cent. (5%) for the first One hundred thousand pounds sterling (£100,000) turnover in each year four per cent. (4%) for the second One hundred thousand pounds sterling (£100,000) turnover in each year and thereafter three per cent. (3%). The Agents shall sell the goods at such prices as are fixed from time to time by the Manufacturers.

6. THE Manufacturers will afford the Agents all the technical information in their power and will reply promptly to enquiries which will arise on technical points and on the relative values of Titan products as compared with others to enable the Agents to effectively deal with enquiries of their customers.

7. THE Agents will keep the Manufacturers advised respecting progress made in the use of Titan products the situation of the market in pigments and in general respecting points of interest arising in the Agents' territory af-

fecting business in Titan products and the Agents will give to the manufacturers all facilities to follow the work of the Agents with regard to the sale and its development with respect to the commercial as well as the technical matters.

8. THE Manufacturers will provide a reasonable supply of free samples.

9. THE Agents will sell the goods under the brand or brands of the Manufacturers and for their account and risk.

10. THE Agents shall arrange to make good to the Manufacturers any loss arising from insolvency of customers and will within 6 months pay to the Manufacturers the full amount of invoices for all products sold by the Agents and duly delivered to customers and accepted by them and in respect to which there is no dispute or claim. The Agents shall not be responsible for the balances of any contracts entered into by customers and not delivered for any reason whatsoever. The Agents will take all reasonable steps to obtain prompt payment of accounts due and will hand up to the Manufacturers on the Thursday of each week all amounts collected during the preceding week less the amount of any commission which may be due to them.

11. THE Manufacturers will add the name of the Agents as the sole source of supply of Titan products to all advertisements of Titan products for the Agents' territory.

12. THE Agents shall be entitled to purchase a limited quantity of Titan products at Two Pounds (£2) per ton additional margin of profit for them for the execution of

smaller orders *i.e.*, those which are taken in deliveries of less than one ton. The maximum quantity purchasable under these conditions is fixed until further notice at one hundred tons during twelve months.

13. ANY dispute arising under this Agreement shall be submitted to Arbitration in London each party to appoint an Arbitrator and the two so appointed to appoint a third the decision of any two to be binding and the same shall be a submission in accordance with the provisions of the Arbitration Act 1889.

14. THIS Agreement shall operate from the date hereof until July first One thousand nine hundred and thirty-four.

Exhibit F-6

SCHEDULED AGREEMENT NO. 5.

AN AGREEMENT made the 10th day of March 1933 Between TITAN COMPANY INCORPORATED a Company incorporated under the Laws of the State of Delaware U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "Titaninc") of the one part and BRITISH TITAN PRODUCTS COMPANY LIMITED having its Registered Office at 95 Gresham Street London England (hereinafter referred as "British Titan") of the other part.

WHEREAS by an Agreement made in the year 1927 between Titangesellschaft m.b.H. Leverkusen near Cologne Germany of the one part and Titan Co. A/S of Fredrikstad Norway of the other part Titangesellschaft granted to Titan Co. A/S the right to buy from Titangesellschaft at cost price to be settled as therein mentioned a quantity of its products to be fixed from year to year at the latest three months before the beginning of each calendar year up to the total quantity of 50 per cent. of the capacity of the factory at Leverkusen and such Agreement also provided that if deliveries should amount to more than 50 per cent. of the capacity of the said plant the price charged would be 10 per cent. above cost price and further that provided the Titan Co. A/S stated its requirements in due time Titangesellschaft would increase its manufacturing capacity adequately for the purpose.

The interest of Titan Co. A/S in the said Agreement has been transferred to and is now vested in Titaninc.

Exhibit F-6

NOW IT IS HEREBY AGREED:—

1. TITANINC undertakes until such time as British Titan shall have commenced to manufacture Titanium compounds and for two years thereafter to supply to British Titan Titanium products manufactured by Titangesellschaft in such quantities as British Titan may require from year to year (the amount required being notified to Titaninc not less than 16 weeks before the beginning of each calendar year commencing with the year 1934) to be obtained from the factory at Leverkusen at cost price to Titaninc under the said Agreement and subject to the conditions hereof.

2. IF Titangessellschaft's deliveries to Titaninc (including the requirements of British Titan) should exceed 50 per cent. of the capacity of the plant the full 10 per cent. charged to Titaninc is to be borne by British Titan to the extent that British Titan takes deliveries and so that in no case shall British Titan be charged more than Titangesellschaft's cost price plus 10 per cent.

3. IF the total requirement of Titangesellschaft and Titaninc (including British Titan's requirements) should exceed the capacity of the Leverkusen plant the deliveries to British Titan are to be reduced to the quantities Titaninc under the said Agreement has available from the existing plant at Leverkusen after satisfying its other markets.

4. IF British Titan's requirements are such that an extension of the said plant is necessary and if British Titan desires to postpone the erection of a factory in Great Britain Titaninc undertakes to co-operate with Titangesellschaft to extend the said plant at Leverkusen provided that since such extention will involve a new investment of capital

such extension will only be made on the condition that British Titan enters into an agreement on such terms as Titanine may determine to take such products manufactured by Titangeselischaft's Leverkusen factory for an agreed period and of an agreed minimum amount sufficient to ensure a reasonable return and amortisation on the capital so invested.

IN WITNESS whereof the parties hereto have duly executed these presents the day and year first above written.

TITAN COMPANY INC.

By

E. J. CORNISH, *Pres.*

[SEAL.]

THE COMMON SEAL OF GOODLASS WALL AND LEAD INDUSTRIES LTD. [SEAL.]

JOHN MANN, *Director.*

J. L. MCCONNELL, *Secretary.*

THE COMMON SEAL OF IMPERIAL CHEMICAL INDUSTRIES LTD. was hereto affixed in the presence of— [SEAL.]

J. ROGERS, *Director.*

J. E. JAMES, *Secretary.*

THE COMMON SEAL OF IMPERIAL SMELTING CORPORATION LIMITED was hereunto affixed in the presence of— [SEAL.]

CECIL L. BUDD, *Director.*

F. A. CREW, *Secretary.*

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Exhibit F-7

24/10/38

GJ/GK

AGREEMENT

Re the Extension of the Exchange of Patent Licences between Titan Company Inc. and its Associated Titanium Companies

It has been the practice to exchange licences in patent cases covering subject matters which are partly or wholly outside the Licenced Field as defined in the respective Licence Agreements, but which are of interest for the production, use and sale of products within the Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. sulphuric acid), utilization of by-products (e.g. copperas), production of extenders, apparatus and the use of titanium pigments and compounds as well as of by-products and extenders.

It is agreed that when such patent applications or patents are offered by one associated company to the other associated companies, it means—unless reservations are made—that the inventor company (respectively the company granting the licence) as far as it is within its power is willing to give, on current agreement conditions, to the other companies, rights to the use of the invention for the purposes of the production, use and sale of products within the Licensed Field under any patents outside its territory.

Exhibit F-7

It is specifically understood that in cases where the receiving company (licencée) is not interested in an exclusive licence for the purposes mentioned above, it will be reserved a non-exclusive licence for these purposes.

This agreement is only to be applied to associated companies which in general act or will act reciprocally.

Agreed on behalf of

TITAN COMPANY INC.

(sign.) G. Jebsen
Vice-President

February 17th 1939

Agreed on behalf of
BRITISH TITAN PRODUCTS CO. LTD.

(sign.) C. J. Stop ord
General Manager
17/2/39

The expression "associated companies" as used above is meant to cover any company which is or will be licenced subject to conditions as contained in Article XIV of the licence agreement of 1933 between Titan Company Inc. and British Titan Products Co. Ltd., and further E. I. Dupont de Nemours & Co., Wilmington, Delaware, U.S.A.

(sign.) GJ (sign.) CJS

Exhibit F-8

BRITISH TITAN PRODUCTS COMPANY LIMITED
BILLINGHAM, STOCKTON-ON-TEES
CO. DURHAM

In Reply Please Quote: CJS/SL/2601

13th September 1941

and Mr. Rockwell

Dr. G. Jebsen, " " Garesche
Titan Company Inc., Please initial recd. 9/29/41
111, Broadway opened by English
New York, N.Y. replied 10/10/41

Dear Mr. Jebsen,

B.T.P./N.T.P. QUOTA

I mentioned to you some while ago that we were negotiating a quota arrangement with N.T.P. and I enclose herewith a copy of the formal letter which has been exchanged between our respective companies, which I think gives full details of the arrangement.

If there are any points on which you would like further information, please let me know.

The sale of titanium pigments now comes under the control of a Government department and is subject to a rationing scheme which limits both home sales and export.

Yours sincerely

s/ C.J. Stopford
SR.

Encl.

Exhibit F-8

British Titan Products Co., Ltd.
Billingham.

BTM/MKB/2535

11th September 1941

National Titanium Pigments Ltd,
Kingsway,
Luton, Beds.

Dear Sirs,

QUOTA

We formally confirm our acceptance of a quota arrangement with you on the terms and conditions set out below.

Scope

The arrangements will include all deliveries of manufactured Titanium Oxide and Titanium Pigments containing more than 2% of titanium oxide, but will not include deliveries of ilmenite or other natural products.

Quota

Of the total deliveries of Titanium Oxide including the Titanium Oxide equivalent of other grades of pigment effected by British Titan Products Co., Ltd, and National Titanium Pigments Ltd, the former company shall be entitled to deliver seventy-nine point nine percent (79.9%) and the latter company twenty point one percent (20.1%).

Period Covered

The quota arrangement shall come into force on and from May 1st, 1941, and shall continue for two years or

until the cessation of hostilities between Great Britain and Germany, whichever is the shorter period, after which time it may be terminated by either party giving six months' notice in writing to the other.

Definition of Deliveries

The amount delivered shall be the quantity despatched to customers during the period covered. Deliveries shall include any material despatched to associated companies with the sole exception of any deliveries made to agents abroad to be held as consignment stocks. In this case only actual deliveries from these stocks shall be taken as the amount delivered. Deliveries shall include any deliveries of Titanium Pigments made by associated companies on behalf of or with the consent of either party to territory within the British Empire excluding the continent of North America.

The quota is based on the TiO_2 content of pigment delivered and for this purpose the TiO_2 content of commercially pure oxide shall be calculated as though it were 100% and the TiO_2 content reduced grades shall be calculated as though it were the round figure, i.e., 70%, 50% or 25%, minor variations in the TiO_2 content being ignored.

Period and Method of Adjustment

Each party shall on the 15th day of each month or as soon as possible after that date during the period covered by the quota send to the other a statement of home and export deliveries made during the preceding month in the case of deliveries made in this country. In the case of deliveries from consignment stocks held abroad, the figures will be

exchanged three months in arrears, e.g., deliveries from overseas consignment stocks made in February will be included in the total deliveries for May.

As soon as possible after November 30th 1941, and each succeeding six monthly period an independent accountant (to be selected by mutual agreement) will determine the deliveries made by each party during the period and submit a statement of both parties' deliveries to each party. The deliveries to be included in the period shall be all material despatched during the period except in the case of deliveries made from consignment stocks abroad which shall be taken out for a period 3 months in arrears e.g., the deliveries from consignment stocks to be included in the first period shall be those made between February 1st and July 31st inclusive.

Compensation

In the event of the accountants' statement showing an over-delivery by one party, that party shall purchase from the other party a quantity of Titanium Pigments necessary to adjust the quota to the agreed percentage and will pay for the material so purchased at the 100 ton price ruling at the end of the period covered by the adjustment less 5%, provided always that if the other party has, during the period covered, purchased pigments from the over-delivered party under a scheme known as the Mutual Aid Scheme at a lower price, this lower price shall apply to an equal quantity of material purchased under the quota-adjustment arrangement. Any deliveries to one party from the other under this clause may be spread over a period of six months if so desired.

Exhibit F-8

Selling Price

Prices shall be mutually controlled and no alterations made except by mutual consent. Any sale of off-grade material at a reduced price may not be made without the sanction of the other party who shall decide if such a sale is to be excluded from the quota arrangement.

Third Party Competition

In the event of a third-party competition arising any quota or compensation made to the third party with mutual consent shall be borne by the parties to this agreement in the proportion of their respective quotas.

Expenses

Any expenses incurred by reason of the employment of the independent account shall be borne by the parties to this agreement in the proportion of their respective quotas.

Arbitration

The decision of the independent account shall be final as regards figures, otherwise any complaints or disputes between the parties arising out of this agreement shall be referred to arbitration. The Arbitrator shall be the Chairman of the London Chamber of Commerce for the time being or some person nominated by him; such Arbitrator's decision on all questions shall be final and shall be enforceable as an award under the Arbitration Act, 1889, or any statutory modifications thereto or re-enactments for the time being in force.

Yours truly,

For BRITISH TITAN PRODUCTS COMPANY LIMITED.

Sgd. B.T. MINTER
Secretary.

Exhibit G

Titangesellschaft m.b.H. *Translated from German.*

Leverkusen a Rh., November 23, 1933.

Verein für chemischt und
metallurgische Produktion

Aussig / Elbe

We beg to confirm herewith the arrangement agreed upon during our recent conferences, i.e., that you and we in future will handle the sales—in the territories mentioned in article 1—of the Titanium Oxide and Titanium White produced by you and ourselves, along common lines. We grant each other the right to use our product-patents (Anwendungspatente) in the field of Titanium White, for us and and our respective customers, and will support each other in protecting these patent rights. You have assumed the obligation to acquire from us the Titanium Oxide and Titanium White you require for the territories covered by the agreement, in so far as these requirements exceed your production capacity at the time of the conclusion of this agreement and provided this does not interfere with the stipulations of article II of this letter. We have assumed the obligation to supply these goods at a preferential price.

In so far as the contents of this letter concern the I.G. Farbenindustrie Akt.Ges., Frankfurt/Main 20, this Company will confirm its agreement directly in writing.

As far as the details of our cooperation are concerned, we have agreed upon the following:

Exhibit G

ARTICLE 1.

Field of the agreement—technically and as to territory.

The field covered by this agreement comprises:

a) technically: All materials or substances containing Titanium, with a minium content of 2% of the element Titanium, which can be used as pigments, whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals), whether used as pigments or for other purposes. The same applies also to mixtures of these materials.

b) territory: Germany with Danzig and Saar-District
Czechoslovakia
Poland
German Austria
Hungary
Jugoslavia
Roumania
Russia.

Both our firms will do their utmost in order to prevent the products covered by this agreement to be imported by third parties into the territories of the agreement.

We will indicate to each other by special letters the products of our manufacture—at present on the market—which fall under this agreement, besides Titanium Oxide.

ARTICLE 2.

Sales rights (Quotas):

The total deliveries of both our firms, calculated as TiO_2, are to be divided according to the following quotas:

Exhibit G

Up to a total annual delivery of 2.800 tons TiO_2 content
Your quota will be 25% our quota ~~will be~~ 75%

From 2801 to 7.000 tons total deliveries, your quota will increase from 25% to 28% and our quota will proportionally decrease from 75% to 72%. From 7.000 tons p.a. upwards the quotas will remain the same, viz:

28% for you
72% " us.

Consequently, your quota for an annual quantity between 2800 and 7000 tons p.a. would develop as follows:

For	2.800	tons	total	annual	delivery 25 %
	3.000	"	"	"	" 25.14%
	3.200	"	"	"	" 25.29%
	3.400	"	"	"	" 25.43%
	3.600	"	"	"	" 25.57%
	3.800	"	"	"	" 25.71%
	4.000	"	"	"	" 25.85%
	4.200	"	"	"	" 26.00%
	4.400	"	"	"	" 26.14%
	4.600	"	"	"	" 26.29%
	4.800	"	"	"	" 26.43%
	5.000	"	"	"	" 26.57%
	5.200	"	"	"	" 26.71%
	5.400	"	"	"	" 26.85%
	5.600	"	"	"	" 27.00%
	5.800	"	"	"	" 27.14%
	6.000	"	"	"	" 27.29%
	6.200	"	"	"	" 27.43%
	6.400	"	"	"	" 27.57%
	6.600	"	"	"	" 27.71%
	6.800	"	"	"	" 27.85%
	7.000	"	"	"	" 28.00%

Exhibit G

For a quantity between these figures the quota is to be calculated in a similar way.

ARTICLE 3.

Sales activities.

The sale of the products covered by the agreement will take place on the basis of extensive mutual information and support, either by the firms themselves or by their representatives.

I.G. Farbenindustrie Akt.Ges., *Frankfurt/Main 20*, Grüneburgplatz, will act as our sales organisation.

In order to establish as close a sales cooperation as possible, the representatives of both parties will meet at fixed intervals, forming a working committee in order to discuss all outstanding questions.

The names of the firms whom we are supplying with products, resp. for which you or we wish customer protection, will be communicated in the Working Committee.

ARTICLE 4.

Fixation of sales prices and terms for the products covered by the agreement.

This shall take place in principle by mutual consent; however you will have the prepondering influence for Czechoslovakia and we for Germany with Danzig and the Saar-District. In the remaining territories the prices shall be fixed in such a way as to avoid any loss being incurred by the seller; but on the other hand, the sales should not be impaired by too high prices.

In cases where it appears appropriate, the prices of both firms need not always be identical. As long as competition

with other white pigments necessitates a flexibility in prices, your company and ours should be allowed the greatest possible mobility in the quotation of prices—however the consent of the other party is an absolute condition therefor.

ARTICLE 5.

Adjustment of quantities.

On the 22nd day of each month you will inform I.G. and I.G. will inform you of the quantities delivered in the preceding month in the territories of the agreement, with specification of each quality separately, and calculated as TiO2. The I.G. will submit to you, within 30 days from the end of each quarter, a preliminary statement of the quantities in order to determine excess—or short sales. The final statement will be made by I.G. 45 days after the end of each calendar year, for the first time on February 15, 1934, covering the remainder of 1933. (An approximate financial adjustment, in accordance with article 11, shall however be made already after the expiration of the first 6 months of each year). The resulting short sales are to be adjusted, if not otherwise stipulated under article 11 of this letter, in such a way that the party, having sold in excess, has to order from the other party the excess quantity of TiO2 delivered, within 30 days after the date of the settlement. For this adjustment delivery, the party having sold in excess will have to pay the sales proceeds, if not otherwise stipulated in article 11.

The settlement as to quantities will be made exclusively on the basis of the TiO2 content of the products covered by the agreement; however, within the limits of their quotas, both firms have claim to a percentage of the deliv-

eries of Titanium Oxide and mixed products, corresponding to the percentage each product constitutes of the total deliveries of our firms for the year in question.

For the adjustment of short deliveries, as far as mixed products are concerned, the repartition of the short quantities over the different qualities shall be in proportion to the quantities of each quality which the party, having delivered in excess, delivered during the period in question. However, in order to simplify matters when making the repartition, only the sales proportion of those mixed products will be taken into account the delivery of which in the respective year exceeded 100 t. TiO_2 content as far as we are concerned, and 25% as far as you are concerned.

If, for instance, the deliveries of Titanium Oxide in the form of mixed pigments, made by one of the parties, are 200 t. short, and the party having delivered in excess, for instance, we, has during the same period, supplied 60% of the mixed products in the form of Standard A, 30% in the form of Extra T and 10% in the form of Standard T, the repartition of these 200 tons will at the time of the settlement have to be made according to the same percentage proportion, *i.e.*, 120 t. TiO_2 in the form of Standard A, 60 t. in the form of Extra T and 20 t. in the form of Standard T.

Short deliveries of your firm, resulting from the difference between your actual deliveries and your capacity of 700 t. TiO_2 are compensated only on the basis of Titanium Dioxide, so that the above stipulations regarding the claim to a percentage of the deliveries of Pure Titanium Oxide and Titanium White shall only apply to a short delivery of your firm, exceeding this.

Exhibit G

In case the orders given in due time by the party having delivered in excess have not been filled within 30 days by the other party, the adjustment in merchandise is considered as having taken place; however, in this case, the party whose deliveries were below the allowed quota, is entitled to a financial compensation. The amount of this compensation for short deliveries—to be found out by taking the difference between the purchase prices (Uebernahnpreise) fixed according to article 11 and the sales proceeds figured out according to the last paragraph of article 5.

Mutual deliveries between our firms are not to be included in the settlement.

Quantities for own use of both our firms and of the I. G., as well as of those firms in which our three companies are interested for at least 50% each, directly or indirectly, or with whom an agreement has been concluded, which, according to terms and duration, is equivalent to a merger, are not included in the settlement, provided, however, that such quantities are not used for the manufacture of products to be resold as pigments for paint.

The parties have to advise each other, at the end of each year, as to the names of the firms to which deliveries are being made according to the preceding paragraph under self consumption right.

With regard to sales proceeds as mentioned in this agreement, it is determined that these will be figured out as follows:

The gross sales price less possible freight expenses (postage, freight-reimbursements), trade taxes (as turnover tax, compensation tax and similar), custom duties and custom expenses, as well as commission actually paid to agents. The sales proceeds are based on goods in original packing; addi-

tional expenses in connection with smaller packing are to be taken into account accordingly.

ARTICLE 6.

Price adjustments.

No price adjustments are to take place. On the contrary, each party is entitled to the proceeds obtained.

If exchange fluctuations or variations should essentially disturb the relation between service rendered and consideration, existing at the time of the conclusion of the agreement, then it shall be endeavored through loyal negotiations to make an equitable adjustment.

ARTICLE 7.

Responsibility for deliveries.

The responsibility for the quality of the goods rests with the manufacturer; the responsibility in connection with the delcredere is with the party which made the sale. Deliveries for which the seller obtains no payment or only part payment, on account of the customer's insolvability, will be eliminated from the settlement, either entirely or for the part unpaid. In this case, the situation at the termination of the bankruptcy or compromise proceedings, is determinative.

Lost shipments, covered by insurance, are to be included in the settlement.

ARTICLE 8.

Control by a trustee.

Once a year a trustee will examine the books of both parties in order to ascertain that the stipulations of this

agreement have been complied with. He will each time inform the other party and the I.G., if the stipulations of the agreement have been complied with by the firm in question —particularly if the reports mentioned under article 5 have actually been sent, or if and to what extent the firm in question has not fulfilled its contractual obligations. Otherwise, the trustee has to observe silence. Towards third parties the trustee's obligation as to secrecy is unlimited.

The Working Committee will issue more detailed instructions regarding the trustee's duties and the way in which he shall attend to his work.

Judge Frech, Dusseldorf, will be appointed trustee, it being understood that he may be represented by an assistant, educated in law, in case he should be prevented from attending to this work, or when it is only a question of examining books and papers.

ARTICLE 9.

Competition clause and secrecy.

During the continuance of this agreement and with regard to the territory covered by the same, the parties and the I.G. are not allowed to participate directly or indirectly in other factories which manufacture or intend to manufacture in the territory covered by the agreement, or deliver or intend to deliver to the said territory the products mentioned under article 2, or to aid such factories in any way in their installation or operations, by technical or commercial advice or preferential deliveries, grant of licenses or similar. Both parties and the I.G. will bind their employees to the same obligations, in so far as there is question thereof in connection with the character of their engagement contracts and so far as it is permitted by law.

Exhibit G

It will not be considered a violation of the obligations under article 1, if one of the parties or I.G. take an interest in another enterprise which, besides other products, also manufactures products falling under this agreement, provided this interest is prompted by these other products. In such case, however, the party in question is obliged to subject the new manufacture of convention products to the stipulations of the present agreement and include this manufacture in his quota.

You oblige yourselves and we oblige ourselves, as far as possible to keep this agreement secret as far as third parties are concerned.

ARTICLE 10.

Patents.

During the life of the patents, we grant each other, for us and our respective customers, the right to gratuitously use our product-patents (Anwendungspatente), for the field of the agreement, technically and as to territory, as well as patent applications published during the continuance of the agreement.

We will support each other in protecting these patent rights against outsiders.

We further undertake the obligation, during the continuance of the agreement and in the territory covered by this agreement, to refrain from filing oppositions to grant of each other's patent applications, including those dealing with manufacturing processes.

Besides the understanding, reached for the time being, with regard to product-patents, the parties contemplate arriving at an understanding regarding the entire patent field and exchange of experience. Should this contemplated understanding be arrived at during the continuance of this

agreement, the date of expiration of the agreement is automatically postponed to the end of 1939.

ARTICLE 11.

Our deliveries to you.

You will purchase from us the Ti02 you require, inasmuch as these requirements exceed your present production capacity of 700 tons p.a., and we are obliged to supply these quantities to you, as long as these deliveries, in addition to our other delivery obligations, do not call for an extension of the production by the erection of new factory buildings. Should this occur, you are entitled to extend your plants in the territory of the agreement, with the exception of Germany incl. Danzig, and the Saardistrict. You undertake the obligation to sell the goods supplied by us, exclusively for consumption in the territory of the agreement.

We shall supply to you the products covered by the agreement at the following prices f.o.b. Leverkusen factory, incl. original packing:

Titanium Dioxide	RM. 66.—	per 100 Kg
Titanium White Extra T	" 46.90	
" " Standard T	" 29.04	
" " Standard A	" 32.91	
" " Standard A Paste	" 39.34	

It is assumed that, prior to ordering any goods from us, you will have utilised your own capacity of 700 t. Ti02, as regards both production and sales. If you purchase Ti02 from us, without having fully utilised your capacity, we shall grant you on the above mentioned price for Ti02 an additional 10% reduction on those quantities which you would have been able to produce yourself if you had produced to the extent of your capacity of 700 t. Ti02.

Exhibit G

The above purchase prices (Uebernahmepreise) are dependent on two factors:

1. Variations in our sales proceeds.
2. Variations in our production costs.

They are to change as follows:

a) as regards proceeds:

Will be taken as a basis:

1) The average proceeds from German sales (Durschnittsverkaufserlös) for Titanium Oxide during the first quarter of 1933, amounting to Rm. 118.— per 100 Kg.

2) The average proceeds in the territories covered by this agreement during the first quarter of 1933

for Extra T	RM.	80.45	per 100 Kg.
Standard T	"	40.04	
Standard A	"	43.97	
Standard A Paste		50.30	

both incl. packing fob Leverkusen factory.

With each increase or reduction of one of these sales proceeds by Mk. I.—the purchase price is increased or reduced by

RM.—.243 per 100 Kg.

A similar calculation is made for changes amounting to fractions of Mk. I.—

b) As regards our production costs:

is taken as a basis our selfcost price for the first quarter 1933, incl. packing, of which we have notified you. With each increase or reduction of this selfcost price by Mk. I.—the purchase price is increase or reduced by

RM.—.737 per 100 Kg.

A similar calculation is made for changes amounting to fractions of MK. I.—

We will advise the trustee of our production price for the first 6 months of 1933 with a detailed specification of the factors on which it is based. At the time of the annual settlement, we will inform you of the changes, and you will be entitled to have the calculation of these changes controlled by the trustee.

Should the purchase price drop below our production costs under the influence of the factors foreseen, we are entitled to decline deliveries at these prices. In this case you would be entitled to increase your capacity accordingly; however, we undertake the obligation to supply the goods to you, up to the time when you can avail yourselves of the increased capacity, at the purchase prices prevailing up to the month before the purchase prices ("Uebernahmepreise") dropped below the production costs. It is evident that during this period the purchase prices in question are again liable to variations—upwards or downwards—but downwards not beyond the limit of the production costs.

Force majeure cases, such as impossibility to make deliveries or shipments, due to acts of nature, strike or lockout, war or acts of God, relieve the parties from their delivery or purchase obligations for the period involved.

However, in such a case, both parties, in their mutual interest, will do their utmost to eliminate any prejudices resulting from such difficulties and to remove the obstacle itself as soon as possible.

ARTICLE 12.

Transfer of contract rights to third parties.

Should one of us, during the continuance of this agreement, sell, lease or otherwise cede his plants for the manufacture of the products covered by the agreement, to a third party, he is obliged to impose upon his successor the obligations resulting from this agreement. A transfer of the quota or parts thereof to third parties is only admissable with the approval of the other party to this agreement.

ARTICLE 13.

Disputes/Court of Arbitration.

The trustee will arbitrate any disputes or differences of opinion, which may arise regarding whether the agreement is in force, regarding interpretation or execution of the present agreement.

Each party is entitled to appeal to a Court of Arbitration with regard to the decision of the trustee, within two weeks after this decision has been notified. Each party will appoint an arbitrator to this Court of Arbitration. In case no agreement can be arrived at by the two arbitrators, they will elect an umpire. If the two arbitrators cannot agree on the choice of an umpire, the latter will be appointed by the President of the International Chamber of Commerce, upon request of one of the two parties. The President of

the International Chamber of Commerce will also appoint the arbitrator for the party which has failed to nominate one within two weeks after the other party has requested it to do so. The umpire must be qualified to act as a judge. The procedure to be adopted by the Court of Arbitration is decided by the Court itself. The arbitrator's decisions are definite, excluding due course of law.

ARTICLE 14.

Duration and notice.

The present agreement is effective as from July 1st, 1933, and may be terminated on 6 months notice, for the first time on December 31, 1936, or, in case article 10 paragraph 4 should come into effect, on December 31, 1939. If no notice has been given 6 months before expiration, the agreement is prolonged for another two years. Notice will be considered as having been given in due time, if it is mailed not later than June 30 of the year in question.

Should a new competition arise during the continuance of this agreement in the territory covered by the same, both our companies will together endeavor to make the outsider's activities ineffective. Should these endeavours be unsuccessful and should the activities of the new competitor lead to a considerable change in the situation of the market, each party would be entitled to denounce the agreement immediately, as long as an understanding as provided for in article 10, paragr. 4, has not been reached. The agreement then expires 3 months after notice has been given.

After resiliation of the agreement, each party can, not sooner than two months before this expiration, undertake sales on any conditions, to be actually effected after the

agreement has expired. Deliveries against sales contracts made before the expiration of this agreement, are to be included in the settlement only if such deliveries have been made before the expiration of the agreement.

The final settlement will be governed ("gelten sinngemäiss") by the provisions of article 5.

ARTICLE 15.

If, during the continuance of the agreement, unfair hardships should result from this agreement, these hardships are to be adjusted in a friendly spirit, if necessary by altering some of the provisions of the agreement. If such a settlement cannot be reached, it will be effected by the Court of Arbitration upon appeal of one of the parties to this agreement.

If new laws or regulations should, permanently or temporarily, fully or partly, handicap the execution of this agreement, new negotiations will take place, in order to adapt the agreement in a friendly spirit to the new situation

TITANGESELLSCHAFT m. b. H.

(signed) Kühne (signed) Brüggemann

Exhibit G

Translated from German

Titangesellschaft m.b.H.

Leverkusen a.Rh., 23rd November 1933

Verein für Chemische und
Metallurgische Produktion
Aussig / Elbe

Referring to article 1 of our letter of to-day regarding our Titanium White Agreement, we beg to inform you that we are at present selling the following products covered by the agreement:

98% Titanium Dioxide	called:	"KRONOS" — Titanium Dioxide	
50% Titanium Dioxide and 50% Blanc-Fixe	called:	"KRONOS" — Titanium White Extra T	
25% Titanium Dioxide and 75% Blanc-Fixe	called	"KRONOS" — Titanium White Standard T	
75% Standard T and 25% Zinc White	called	"KRONOS" — Titanium White Standard A	
15% Titanium Dioxide and 85% Blanc-Fixe	called	"KRONOS" — Titanium White Standard T Sekunda spezia	
50% Titanium Dioxide and 50% Calcium Sulphate	called	"KRONOS" — Titanium White C 50	
30% Titanium Dioxide and 70% Calcium Sulphate	called:	"KRONOS" — Titanium White C 30	
15% Titanium Dioxide and 85% Calcium Sulphate	called:	"KRONOS" — Titanium White C 15	
84% Standard A and 16% Linseedoil	called	"KRONOS" — Titanium White Standard A in Paste	

Paste (Oelweiss) produced from sweepings.

As soon as we bring on the market other qualities or withdraw a quality hitherto sold, we will advise you again. We should be obliged if you, in turn, would inform us about the products sold by you at the present time and keep us advised in each case as to possible changes in the list in question.

Yours very truly,

TITANGESELLSCHAFT m.b.H.

(sign.) Kühne (sign.) Brüggemann

Exhibit G

Translated from German.

Verein für chemische und
metallurgische Produktion

Aussig a/Elbe, December 2, 1933.

Titangesellschaft m.b.H.

LEVERKUSEN

Re: Titanium White Agreement.

We have received via Frankfurt the confirmation of our agreement regarding Titanium Dioxide and Titanium White, and beg to enclose our reply, signed by us.

For the sake of clearness, we only wish to state that, as agreed with Mr. Borgwardt in Prague, in view of the fact that no goods from Leverkusen are actually ordered and resold by us, only the stipulations of article 11 are in force for the settlement of our short deliveries, by payment of the difference between the purchase prices ("Uebernahmepreise") fixed in the above article and the sales proceeds determined according to the stipulations of said article.

We may ask you now also to convoke the trustee, and remain

Yours very truly,

Via I.G. Farbenindustrie A.G.
Frankfurt a/M.

Exhibit G

Translated from German.

Verein für chemische und
metallurgische Produktion

Aussig a/Elbe, December 2, 1933.
Titangesellschaft m.b.H.
Leverkusen—I.G. Werk,

Re Titanium White

Leverkusen a/Rh

Referring to article 1 of our Titanium White agreement, we beg to inform you that we are at present selling the following products covered by the agreement:

98%	Titanium Dioxide	called: Bohemia-Titanium White "Goldsiegel"
65%	Titanium Dioxide	called: Bohemia-Titanium White
35%	Water	"Goldsiegel" in Paste
60%	Titanium Dioxide	called: Bohemia-Titanium White
40%	Blanc Fixe	"Silbersiegel"
36%	Titanium Dioxide	called: Bohemia-Titanium White
54%	Blanc Fixe	"Weisssiegel"
10%	Zinc Oxide	
25%	Titanium Dioxide	called: Bohemia-Titanium White
40%	Bariumcarbonate	"Weissiegel extra".
20%	Blanc Fixe	
15%	Zinc Oxide	

As soon as we bring on the market other qualities or withdraw a quality hitherto sold, we will advise you again. We note that you will act in the same manner towards us.

yours very truly,

Via I. G. Farbenindustrie Akt. Ges.
Frankfurt a/M.

Exhibit G-1

Translated from French
Contrat à Quatre

AGREEMENT

BETWEEN

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE, SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, SOCIETE INDUSTRIELLE DU TITANE, TITAN COMPANY INC.

1935.

Exhibit G-1

Between Titan Company Inc. and Société Industrielle du Titane agreements exist concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Société Industrielle du Titane* with exclusive rights for the following countries:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent). For the Saar, Société Industrielle du Titane has certain rights in conjunction with those of Titangesellschaft.

b) *Titan Company Inc.* with exclusive rights for the rest of the world.

Titan Company Inc. has agreements with:

Titan Co. A/S which has exclusive rights of manufacture and sale for the following countries: Norway, Sweden, Denmark (with Iceland, Greenland and the Faroe Islands), Finland, Esthonia, Latvia and Lithuania, and non-exclusive rights of sale of its maritime pastes and paints in all countries.

Titanium Pigment Co. Inc. which has exclusive rights of manufacture and sale for: the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands.

Further, Titanium Pigment Co. Inc. has the right to manufacture and sell in South America.

Exhibit G-1

Titangesellschaft m.b.H. which has exclusive rights of manufacture and sale for: Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Poland, Portugal, Dantzig, South America (excluding Guiana) with reservation for South America as specified above. For the Saar Titangesellschaft has certain rights in conjunction with those of Société Industrielle du Titane.

British Titan Products Company Limited which has exclusive rights of manufacture and sale for: the British Empire as at present constituted, including protectorates and mandated territories (except the British countries of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent, Demerara, the Falkland Islands and the West Indies), Egypt and Irak.

Between Société de Produits Chimiques des Terres Rares and Fabriques de Produits Chimiques de Thann et de Mulhouse agreements exist concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Fabriques de Produits Chimiques de Thann et de Mulhouse* with exclusive rights of manufacture and sale for France including colonies, dependencies, protectorates and mandated territories and Saar. They have non-exclusive rights of sale for all countries in

which Société de Produits Chimiques des Terres Rares has not transferred its rights to other companies.

b) *Société de Produits Chimiques des Terres Rares* which has exclusive rights for all countries with the exception of the rights specified under a) and the rights resulting from the agreements made with:

Società Anonima Titanium which has exclusive rights of manufacture and sale for Italy with colonies, dependencies, protectorates and mandated territories, and non-exclusive rights of sale for the following countries: Belgium, Holland, Switzerland, British Empire, Spain, Portugal and South America. These non-exclusive rights can be resiliated with 3 months notice.

Krebs Pigment & Colour Corporation which has acquired the American (U. S. A.) patents of the Blumenfeld group.

Verein für chemische und metallurgische Produktion which has exclusive rights of manufacture and sale in Czechoslovakia, Austria, Hungary, Yugoslavia and Rumania. Subject to certain obligations, it has exclusive rights of manufacture and sale in Germany, Dantzig, the Memel District and Denmark. It has with Société des Terres Rares exclusive rights of manufacture and sale in Poland and U. R. S. S.

In order to ensure sales on common lines, the parties hereto, viz:

Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A. (hereinafter called Titaninc,) and

Exhibit G-1

Société Industrielle du Titane, 26 Rue de la Pépinière, Paris, France (hereinafter called Sté Titane) of the one part and Société de Produits Chimiques des Terres Rares, 67 Rue de Prony, Paris, France (hereinafter called Terres Rares), and Fabriques de Produits Chimiques de Thann & de Mulhouse, Thann, Haut Rhin, France. (hereinafter called Thann) of the other part have entered into the present agreement.

ARTICLE 1.

Products and countries covered by the agreement:

a) *Products covered by the agreement:* as products covered by the agreement are considered all materials or substances containing Titanium having undergone a chemical treatment and with a minimum content of 2% of the element Titanium, and which can be used as pigments—whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals), without it being necessary to consider whether they are actually used as pigments or for other purposes. The same principle applies to mixtures of these substances.

The parties will indicate to each other in writing those of their products which come under the category above defined.

b) *Countries covered by the agreement:* As countries covered by the agreement are considered:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the North of the Panama Canal and all islands geographically appurtenant to the said continent), Monaco, as well as Saar, subject to the result of the plebiscite foreseen—hereinafter called "France".

Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories, hereinafter called "Belgium".

Holland including colonies, dependencies, protectorates and mandated territories—hereinafter called "Holland".

Various countries, viz: Esthonia, Latvia, Lithuania, (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam,—hereinafter called "Various countries".

ARTICLE 2.

Rights of delivery.

The total deliveries of the parties hereto to customers in each territory, calculated as TiO2, shall be divided according to the following quotas:

Exhibit G-1

France	Terres Rares and Thann	Titanine and Sté Titane
Quantities up to 1000 tonnes annually	55%	45%
" between 1000 and 2000 t. "	45%	55%
" above 2000 t. "	50%	50%

(Saar District:

If the plebiscite foreseen for 1935 decides that Saar in future shall be German, it will no more be among the countries covered by the agreement. In the meantime the deliveries which will be made there by Terres Rares, Thann and Sté Titane to customers shall be comprised in the deliveries in "France", Titangesellschaft is not considered as a customer. With regard to the deliveries of Titangesellschaft in the Saar District, a settlement between the latter and Terres Rares-Thann is to take place.)

Belgium		
Any quantity	30%	70%
Holland		
Any quantity	30%	70%
Various countries		
Any quantity	30%	70%

Exhibit G-1

ARTICLE 3.

Repartition of the quantities to be purchased from Società Anonima Titanium.

The parties to the present contract have bound themselves by contract dated 5/10/17/1935 to take annually, under certain conditions, from S.A. Titanium 75 tonnes TiO2 (plus possibly 12½ tonnes). For the repartition of these 75 tonnes (plus possibly 12½ tonnes) between the parties to the present agreement, the quotas specified in article 2 of the present agreement are also to be applied, i.e.:

June

for 56 tonnes (plus possibly 9 tonnes) the quotas specified above for France;

for 19 tonnes (plus possibly 3.5 tonnes) the quotas specified for the other territories.

The parties hereto undertake to forward to each other a copy of the orders sent S.A. Titanium.

The parties hereto have jointly bound themselves towards S.A. Titanium to take these 75 tonnes (plus possibly 12,5 tonnes). If, for some reason or other, one of the parties has to take a delivery which was incumbent on another party, the quota of the latter shall be reduced to the profit of the former in due proportion.

If the quantities to be purchased from S.A. Titanium fall below 75 tonnes (plus possibly 12,5 tonnes), the reduction resulting therefrom shall be divided between the parties proportionally to their respective obligations for each country.

Exhibit G-1

ARTICLE 4.

Sales.

The sales shall take place on the basis of an interchange of commercial information and mutual support, either by the firms themselves or by their representatives.

In order to ensure as close a cooperation as possible concerning the sales, the representatives of the parties will meet at fixed intervals, thus forming one or several working committees which will have to discuss current matters.

The names of the firms for which one of the parties shall wish to remain sole supplier, will be communicated during the sessions of this Committee.

ARTICLE 5.

Fixation of sales prices and terms of delivery and payment.

The sales prices and terms of delivery and payment shall be fixed by mutual consent in all the countries covered by the agreement, taking into account the prices of the competitive pigments and the intention to develop the consumption as much as possible.

However, should Terres Rares-Thann object to a change in prices proposed by Titanine for Belgium and Holland, the latter would be entitled to denounce the entire agreement.

In cases where it will appear expedient in the interest of all concerned, the prices and terms of the parties need not necessarily always be identical and this by mutual consent.

Exhibit G-1

ARTICLE 6.

Compensation for quantities delivered below or above the quotas.

On the 25th of each month at the latest, each party shall inform the other of the quantities delivered by it to customers during the preceding month in each territory, with specification of the different qualities as well as calculation of the respective TiO2 content. Deliveries between the parties shall not be included.

Titanine shall submit, within 40 days from the end of each quarter, a preliminary statement of the quantities delivered, in order to determine excess—or short deliveries and enable the excess deliverer to order from the short deliverer the quantity delivered in excess. The final annual statement shall be established by the comptroller (see art. 9) soonest possible, but not later than the following 15th of May, and communicated to the parties.

The Committee foreseen in art. 4 shall see to it that the deliveries correspond well to the quotas of each party so that the final adjustments only involve small quantities.

If nevertheless one of the parties at the end of a year should have delivered a quantity exceeding its quota by more than 10%, the excess deliverer, besides his contractual obligation to make a compensation in merchandise or in cash, shall have to pay for the quantity exceeding the 10% a penalty of 20% of the average gross sales price taken as a basis for this compensation. The penalty in question would not have to be paid if the excess delivery was caused by insufficient production at Leverkusen or at Thann. The provisions of this paragraph only apply to the market "France".

Exhibit G-1

Short deliveries in each territory shall be compensated as follows: The party whose deliveries exceed its quota (the excess deliverer) will have to order from the other party (the short deliverer) the quantity of Ti02 delivered in excess, either in Dioxide or in other current qualities of the latter. These orders will in principle have to be sent in one month at the latest after the quarterly statement is issued and for a quantity, calculated as Ti02, equal to the excess delivery during the quarter expired. The necessary orders have to be sent in on the 15th of June at the latest for the adjustment of the deliveries for the year expired.

For these compensation deliveries, the excess deliverer shall have to pay, for each territory, the average sales price for the period in question, obtained by the short deliverer in the respective territory and reduced to fob the short deliverer's production place for each quality ordered. The short deliverer shall not be obliged to execute this order and if delivery has not taken place within 30 days from the date of the order, the settlement in merchandise will be foreclosed. In this case the short deliverer shall be entitled, for the quantity of Ti02 contained in the different qualities ordered but not delivered, to a compensation in cash, equal to the average profit obtained by the excess deliverer on the Ti02 contained in all his deliveries to customers during the period and in each respective territory.

The parties will have to inform each other quarterly of their average sales prices. These prices will be definitely established by the comptroller at least once a year and communicated to the parties soonest possible but not later than the 15th of May for the year expired.

Any settlement in merchandise or cash will have to be made separately for each territory.

The details regarding compensation in merchandise or cash are stated in Annex A.

ARTICLE 7.

Adjustment of the sales proceeds.

No adjustment as regards the sales proceeds will be made. Each party is entitled to the proceeds from its sales.

ARTICLE 8.

Responsibility for deliveries.

Each party remains responsible for the quality of its goods within commercial limits, even after re-sale by another party.

ARTICLE 9.

Control.

Whenever requested by one of the parties, but at least twice a year, the books of the parties shall be examined by a comptroller—a person or company agreed upon by the parties—, in order to verify if the stipulations of the agreement have been complied with. The comptroller will each time inform each party whether the conditions of the present agreement have been complied with, whether the information referred to in article 6 has regularly and accurately been imparted and, if one or several parties have not fulfilled the contractual obligations, to what extent. The comptroller and his possible substitute shall be bound to secrecy and, towards third parties, to absolute secrecy.

The Working Committee shall issue more detailed instructions regarding the comptroller's duties and the way in which he shall attend to his work.

The parties hereto undertake the mutual obligation to place at the disposal of the comptroller all documents necessary for the execution of the present agreement, and to permit the Comptroller at all times access to their books and vouchers, as far as they concern questions affecting the execution of the agreement.

ARTICLE 10.

Competition and secrecy clause.

Except in the cases foreseen in article 13 hereafter, the parties will be prohibited during the continuance of the present agreement, from participating directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver in the countries covered by the agreement, except to one of the parties, the products covered by the agreement, or to assist them in any way whatever as regards their installation or operations by technical or commercial advices or preferential deliveries, grant of licenses, assignment of patents, etc. The same obligations are incumbent on the persons employed by the parties, within the limits of their engagement contracts and the limits of the laws.

It will not be considered a violation of the obligation under paragraph 1, to take an interest in an enterprise manufacturing other products besides those coming under this agreement, provided the object of this interest are these other products.

In such a case, the party in question will have to subject the deliveries of products covered by the agreement, made by this enterprise in the countries covered by the agreement, to the stipulations of the present agreement, by adding them to its own deliveries.

Exhibit G-1

The parties bind themselves not to supply intermediary products to third parties likely to utilise them for the manufacture of products covered by the agreement. Although free in principle, the parties also undertake not to supply products covered by the agreement to third parties likely to utilise them for re-sale in the form of titanated lithopone, without having discussed the question beforehand.

The parties shall do their utmost to prevent that the products covered by the agreement and having been sold by them, be imported by third parties into the countries covered by this agreement. However, if the parties ascertain any illicit importations of their goods into a country covered by the agreement, the Working Committee will have to take the necessary steps to settle the question.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

ARTICLE 11.

Patents concerning the use of the products of the agreement.

During the life of the patents concerning the use of the products of the agreement, the parties acknowledge mutually, for themselves and their respective customers, the right to use these patents gratuitously as far as the countries of the agreement are concerned, as well as patent applications published during the continuance of the agreement.

In case a license in respect of patents concerning the use of the products of the agreement is granted to a customer, the parties shall as far as possible bind him to use for the application of the license and for its duration solely the products of the parties, leaving him however free choice

to procure them from any of the parties authorized to sell in the country in question.

Each party further undertakes, during the continuance of the agreement and in the countries covered by the agreement, to refrain from rising opposition against patent applications filed by another party, concerning the use of the products of the agreement.

ARTICLE 12.

Production.

No factory shall be erected in the countries of the agreement outside France, without the mutual consent of the parties hereto, which remain free to manufacture in France any quantity they consider advisable.

ARTICLE 13.

Succession or transfer of rights to third parties.

The present agreement shall bind not only the companies who are signatory thereto, but also their successors, assigns or anybody having rights under the agreement, who shall have to assume all the obligations resulting therefrom.

As far as France is concerned, the grant of an exclusive license comprising all the products of the agreement will not constitute a violation of the obligation of paragr. 1 of article 10, and each party may sell, lease or transfer to a third party all its factories for the manufacture of the products of the agreement or all its patents for the manufacture of the products of the agreement, together with its entire quota.

In all other cases an assignment by a party of the quota or part thereof to third parties will be subject to the consent of the other parties.

In the cases foreseen above each party signatory to the present agreement will remain responsible towards the other parties until it has been expressly released by them.

ARTICLE 14.

Disputes, Arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavour to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

ARTICLE 15.

Duration.

The present agreement enters into force on the day of its signature. Except in the cases foreseen in the articles 16 and 17, it can only be denounced as per December 31, 1938 with 6 months notice, i.e. given on June 30th 1938. If no notice has been given, the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question.

The quota system foreseen by the present agreement shall be applied with retroactive effect as from May 1st 1934.

Exhibit G-1

Once the agreement is denounced, but not earlier than 2 months before its expiration, each party can make sales on any conditions for the period following the expiration of the agreement.

Deliveries against sales contracts in force at the definite termination of the agreement are to be included in the settlement only if such deliveries have been made prior to the date of this termination.

ARTICLE 16.

Anticipated resiliation.

The present agreement may be resiliated at an earlier date than foreseen, in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities, resulting from governmental measures or from a new competition.

2) Any governmental or legislative measures contrary to the present contract or making it partly or wholly illegal

If the reasons for an anticipated resiliation should present themselves only in part of the countries covered by the agreement outside France, Belgium and Holland, the maintenance of the contract might be exacted for the countries not affected by the event in question.

The anticipated and full resiliation of the present agreement shall also take place if Titaninc denounces it according to its right foreseen in article 5.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months notice.

Once the agreement is denounced, but not earlier than 2 months before its termination, each party can make sales on any conditions for the period following the termination of the agreement.

ARTICLE 17.

Relation to other agreements.

The present agreement is closely connected with the agreement made in order to ensure sales on common lines, on June 5/10/17/ 1935 between:

Società Anonima Titanium
Société de Produits Chimiques des Terres Rares
Fabriques de Produits Chimiques de Thann et de Mulhouse
Titan Company Inc.
Societé Industrielle du Titane
Titangesellschaft m.b.H.

Should the latter agreement be denounced, the present agreement may also be denounced with 3 months notice and as per the end of a month, on the condition however that the notice be given within 60 days from the date of mailing the notice of the other above mentioned agreement to the parties.

Exhibit G-1

ANNEX "A" TO THE CONTRACT OF JUNE 5/17/1935 BETWEEN TITANINC, SOCIETE TITANE, TERRES RARES, THANN.

Settlement of the compensation in merchandise or in cash according to article 6.

The compensation in merchandise or in cash shall be made separately for each territory.

Quantities: The following will be the procedure for determining whether one of the parties has exceeded the quotas specified in article 2:

	Terres Rares and Thann	Titaninc and Sté Titane
France: including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the North of the Panama Canal and all islands geographically appurtenant to the said continent) and Monaco.		
(Saar District: If the plebiscite foreseen for 1935 decides that Saar in future shall be German, it will no more be among the countries covered by the agreement. In the meantime the deliveries which will be made thereby Terres Rares, Thann and Sté Titane to customers shall be comprised in the deliveries in		

Exhibit G-1

	Terres Rares and Thann	Titanine and Sté Titane
"France". Titangesellschaft is not considered as a customer. With regard to the deliveries of Titangesellschaft in the Saar-District a settlement between the latter and Terres Rares-Thann is to take place).		
Quantities up to 1000 tonnes annually	55%	45%
" between 1000 and 2000 t. "	45%	55%
" above 2000 t. "	50%	50%
Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories	30%	70%
Holland including colonies, dependencies, protectorates and mandated territories	30%	70%
Various countries comprising: Esthonia, Latvia, Lithuania (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam.	30%	70%

Only the total TiO2 content of the different qualities delivered and invoiced to customers shall be taken into account.

For standard products, i.e. for products of which the chemical composition and pigmentary quality remain regularly fixed within the limits tolerated in the trade, the parties will admit, for all calculations provided for in the pres-

Exhibit G-1

ent agreement, the TiO2 content officially stated unless an important deviation is proved.

No deduction will be made for unpaid goods or for goods dispatched to a customer and lost in transit.

Deliveries between the parties will not be included.

Compensation in merchandise.

Short deliveries shall be compensated as follows:

The party whose deliveries exceed its quota (the excess deliverer) shall order from the other party (the short deliverer) the quantity of Ti02 delivered in excess, either in Dioxide or in other current qualities of the short deliverer and of which he has delivered during the last 12 months at least 25 tonnes calculated as Ti02. These orders shall in principle be sent in at the latest one month after the quarterly statement is issued and for a quantity, calculated as Ti02, equal to the excess delivery during the quarter expired.

On the 15th of June at the latest the necessary orders shall be sent in for the adjustment of the deliveries for the year expired.

Unless otherwise agreed, the goods ordered shall be dispatched to the territory for which they serve as compensation, in order to be distributed and sold there by the excess deliverer.

The goods shall be delivered free frontier or maritime port, duty paid, expenses and duty to be paid by the short deliverer for account of the excess deliverer and reimbursable against invoice.

Exhibit G-1

Price for compensation deliveries.

The excess deliverer shall pay for each quality ordered the average sales price for the period in question, obtained by the short deliverer and reduced to fob the short deliverer's production place, expenses and taxes to be paid in connection with the sales, to be deducted. The short deliverer will thus obtain the same profit which he would have realised if he himself had delivered these same quantities to customers.

The average net sales price of the short deliverer for each quality for the period in question, reduced to fob his production place, is calculated as follows: from the net invoice amount are deducted expenses and taxes, such as:

a) Transport and insurance expenses from the short deliverer's production place to the customer.
b) Sales taxes.
c) Rebates.
d) Sales commission (fixed arbitrarily at 5% of the invoice amount).
e) Storage expenses.
f) Extra expenses for small packings (below 200 Kg.)
g) Duty, custom expenses, consular fees.
h) Import tax.

Unpaid goods shall be included in the calculation of average prices at invoice price. Goods dispatched to customer and lost or damaged on the way, shall be included at the price insured.

Terms of payment for compensation deliveries.

Net within 30 days from date of invoice.

Exhibit G-1

Responsibility for and quality of deliveries.

The goods delivered are to be of a quality equal to that of the samples accepted by the excess deliverer and in accordance with the current qualities sold by the short deliverer.

Each party remains responsible for the quality of its goods within commercial limits, even after re-sale by the other party.

Compensation in cash.

If total or partial delivery has not taken place within 30 days from the date of the order, the short deliverer is entitled to a compensation in cash for the quantity of TiO2 contained in the different qualities ordered but not delivered, equal to the average profit obtained by the excess deliverer on the TiO2 contained in all his deliveries to customers in the period and territory in question, excepting the quantities originating from S.A. Titanium, Milan, according to contract of June 5/10/17/1935.

The average profit shall be established by deducting from the average sales price, reduced to fob production place of the goods delivered, a price equal to the purchase price fixed according to the delivery contract of June 5/17/35 between the parties to the present agreement.

The purchase price to be used for deliveries from Thann shall be calculated according to formulas A) or B), this being each time in the choice of Titaninc—Sté Titane.

Any product sold by one of the parties and manufactured from one or several pigments included in the present agreement, shall be calculated according to its content of pigments used and at the average profit obtained for this or these pigments.

Exhibit G-1

Penalty for excess deliveries in France.

Should one of the parties, at the end of a year, have delivered a quantity exceeding its quota by more than 10%, the excess deliverer, besides his contractual obligation to make a compensation in merchandise or in cash, shall have to pay for the quantity exceeding the 10% a penalty of 20% of the average gross sales price taken as a basis for this compensation. The penalty in question will not have to be paid if the excess delivery was caused by insufficient production at Leverkusen or at Thann. The provisions of this paragraph only apply to the market "France".

If from the stipulations in the present annex prejudicial situations should arise for one or the other party the question shall be dealt with by the parties in a friendly spirit and settled if necessary by the modification of the stipulations in this annex.

AGREEMENT AND ANNEX SIGNED:

Leverkusen, June 17th, 1935

On behalf of:	Titanine:	Société Titane:
	G. Jebsen	G. Jebsen

Milano, June 5th, 1935.

On behalf of:	Terres Rares:	Thann & Mulhouse:
	J. Blumenfeld	J. Ourisson.

Exhibit G-2

Translated from French.
Contral de Livraisons

AGREEMENT

Concerning the Mutual Deliveries

BETWEEN

Fabriques de Produits Chimiques de Thann et de Mulhouse, Societe de Produits Chimiques des Terres Rares, Societe Industrielle du Titane, Titan Company Inc.

1935.

Exhibit G-2

Between Titan Company Inc. (hereinafter called Titaninc) and Société Industrielle du Titane (hereinafter called Sté Titane) of the one part, and Société de Produits chimiques des Terres Rares (hereinafter called Terres Rares) and Fabriques de Produits Chimiques de Thann & de Mulhouse (hereinafter called Thann) of the other part, an agreement has been entered into on June 5/17/1935 concerning certain Titan Products.

Subject to the conditions stated below and for the duration of the said agreement, the following is agreed upon:

Titaninc which has an agreement with Titangesellschaft m.b.H., concerning supply of products from the latter's factory in Leverkusen, undertakes to supply to Terres Rares-Thann, directly or through Sté Titan, for the countries covered by the above mentioned agreement, goods originating from this factory up to the quantities it has available at Leverkusen, after its own sales, incl. those to the companies cooperating with Titaninc and those of Titangesellschaft m.b.H., have been satisfied, and at prices and conditions fixed as specified hereafter.

Terres Rares-Thann undertake to supply to Titaninc and Sté Titane for the same countries, up to the quantities they have available after satisfying their own sales, at prices and conditions fixed as specified hereafter.

Purchase prices ex Leverkusen (Deliveries of Titaninc).

The purchase prices for goods delivered ex Leverkusen shall be fixed as follows:

Exhibit G-2

		Basic price per 1000 Kg. f.o.b. factory at Leverkusen		
		France	*Belguim*	*Holland*
For Titanium Oxide	R.M.	663.04	665.68	652.73
" Extra T (or equivalent products)	"	456.09	464.17	449.30
" Stand. T (or equivalent products)	"	304.—	291.69	292.03

in 200/250 Kg. casks.

For the "Various countries" shall be applied the same purchase prices as for Belguim.

These purchase prices shall be dependent on two factors:

1) The modification of the average net sales price of Titanine and Sté Titane in the respective territories.

2) The modification of the cost price of the factory at Leverkusen.

They shall be altered as follows:

a) From the point of view of the average net sales price: As a basis have been adopted the average net sales prices during the first quarter of 1934 for each quality in France, Belgium and Holland respectively, reduced to f.o.b. Leverkusen, viz:

	RM. per 1000 Kg. incl. Packings
FRANCE:	
Ti02	1.028.76
Extra T	659.79
Standard T	409.35
BELGIUM:	
Ti02	1.037.09
Extra T	685.37
Standard T	370.52

Exhibit G-2

HOLLAND:

TiO2	996.16
Extra T	638.46
Standard T	371.60

For any increase or reduction of one of these average net sales prices by RM. I.—the respective purchase price in the country in question shall be increased or reduced by:

RM. 0.317 per 1000 Kg.

For modifications affecting fractions of RM. I.—the increase or reduction shall be established proportionally.

The average net sales price shall be calculated as follows:

From the net invoice amount are deducted expenses and taxes, such as:

a) Transport and insurance expenses from the Leverkusen factory to the customer.

b) Sales taxes.

c) Rebates.

d) Sales commission, fixed arbitrarily at 5% of the invoice amount.

e) Storage expenses.

f) Extra expenses for small quantities (below 200 Kg.)

g) Duty, custom expenses, consular fees, etc.

h) Import tax.

Unpaid goods shall be included at invoice price. Goods dispatched to customer and lost or damaged on the way shall be included at the price insured.

Deliveries between the parties shall not be included in the calculation.

Exhibit G-2

The price thus obtained for a quality in one of the countries in question, converted into RM. at the closing selling rate of exchange in London on the last working day of the quarter represents the average net sales price for this quality in the country in question.

b) From the point of view of cost prices:

For any increase or reduction of the cost price by RM. I.—the respective purchase price shall be increased or reduced by

RM. 0.683 per 1000 Kg.

For modifications affecting fractions of RM. I.—the increase or reduction shall be established proportionally.

If the purchase prices, calculated as above, drop below the cost prices of the Leverkusen factory, Titaninc shall be entitled to refuse delivery at these prices.

Purchase prices ex Thann. (Deliveries of Terres Rares—Thann.)

The purchase prices for goods delivered ex Thann shall be fixed as follows, and this each time in the choice of Titaninc, (respectively Sté Titane):

A. To the purchase price ex Leverkusen, calculated as specified above for deliveries of Titaninc, shall be added an amount corresponding to the transport expenses to the French frontier and to the French duty and customs expenses.

B. As for the price ex Leverkusen, shall be established the cost price of Thann and the average net sales price of Terres Rares-Thann in the respective territories.

Exhibit G-2

		Basic price per 1000 Kg. fob factory at Thann.		
		France	Belguim	Holland
For Titanium Oxide	Fr.Frs.	5384.29	4998.61	5017.69
" White Label 55%	" "	3851.45	3.592.37	—
" Green Label 20%	" "	2641.60	—	—

in 200/250 Kg. casks.

For the "various countries" shall be applied the same purchase prices as for Belguim.

These purchase prices shall be dependent on two factors:

1) The modification of the average net sales price of Terres Rares-Thann in the respective territories.
2) The modification of the cost prices of the Thann factory.

They shall be altered as follows:

a) From the point of view of the average net sales price:

As a basis have been adopted the average net sales prices during the first quarter of 1934 for each quality, in France, Belgium and Holland respectively, reduced to fob Thann, viz:

	French Francs per 1000 Kg. incl. packings
FRANCE:	
TiO2	7.202.24
White Label	4.471.—
Green Label	3.155.90
BELGIUM:	
TiO2	5.985.59
White Label	3.653.70
Green Label	no sales

Exhibit G-2

HOLLAND:

Ti02	6.045.80
White Label	no sales
Green Label	"

For any increase or reduction of one of these average net sales prices by French Frs. I.—the respective purchase price in the country in question shall be increased or reduced by

French Frs. 0.317 per 1000 Kg.

For modifications affecting fractions of French Fr. I.— the increase or reduction shall be established proportionally.

The average net sales price shall be calculated as follows:

From the net invoice amount are deducted expenses and taxes such as:

a) Transport and insurance expenses from the Thann factory to the customer.

b) Sales taxes.

c) Rebates.

d) Sales commission, fixed arbitrarily at 5% of the invoice amount.

e) Storage expenses.

f) Extra expenses for small quantities (below 200 Kg.)

g) Duty, custom expenses, consular fees, etc.

h) Import tax.

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Exhibit G-2

Unpaid goods shall be included at invoice price. Goods dispatched to customer and lost or damaged on the way shall be included at the price insured.

Deliveries between the parties shall not be included in the calculation.

The price thus obtained for a quality in one of the countries in question, converted into French Francs at the closing selling rate of exchange in London on the last working day of the quarter represents the average net sales price for this quality in the country in question.

b) From the point of view of cost prices:

For any increase or reduction of the cost price by French Fr. 1.—the respective purchase price shall be increased or reduced by

French Frs. 0.683 per 1000 Kg.

For modifications affecting fractions of French Fr. 1.—the increase or reduction shall be established proportionally.

If the purchase prices, calculated as above, drop below the cost prices of the Thann factory, Terres Rares-Thann shall be entitled to refuse delivery at these prices.

Calculation of the purchase prices.

Titanine shall give the comptroller forseen in the agreement of June 5/17/1935 above mentioned, a full description of the elements entering into the calculations of cost prices.

At the request of Terres Rares-Thann, Titanine shall establish every three months—soonest possible—the purchase prices to be applied for each quality for the following period, and shall communicate them to Terres Rares-

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Exhibit G-2

Thann. If important fluctuations of the cost prices, the sales prices or the rates of exchange have taken place, but these fluctuations have not found their right expression in the purchase prices established as indicated above, these factors will have to be taken into account when fixing the purchase prices.

Terres Rares-Thann shall be entitled to have the calculations verified by a comptroller agreed upon by the parties at the expiration of each year, and also in case important modifications of the cost price should seriously influence the purchase prices.

Similarly, Terres Rares-Thann shall give the comptroller a full description of the elements entering into the cacula-tions of their cost prices.

For deliveries ex Thann, Terres Rares-Thann shall establish every three months, at the request of Titaninc-Sté Titane, the purchase prices to be applied for each quality, and shall communicate them to Titaninc-Sté Titane. If important fluctuations of the cost prices, the sales prices or the rates of exchange have taken place, but these fluctuations have not found their right expression in the purchase prices established as indicated above, these factors will have to be taken into account when fixing the purchase prices.

Titanic-Sté Titane shall be entitled to have the calculations verified by a comptroller agreed upon by the parties at the expiration of each year, and also in case important modifications of the cost price should seriously influence the purchase prices.

Payment.

The deliveries will be invoiced at the last purchase price established, and the payment, including transport expenses

up to place of destination, shall take place on receipt of the invoice. The seller is entitled to choose the currency in which the payment is to be made, and is bound to advise the buyer thereof in due time, upon request, in order to enable him to cover himself.

Unless otherwise agreed, the amount to be paid in the currency chosen shall be calculated on the basis of the closing selling rate of exchange in London, the day before the order is sent in.

Orders.

The monthly orders shall be sent in 6 weeks in advance and shall be in due and regular proportion to the development of the sales. In case a substantial decrease in the orders or in the possibilities of delivery can be foreseen, the parties shall inform one another soonest possible.

Samples.

The goods shall be in accordance with the accepted samples.

Reexportation.

The goods delivered shall not be reexported from the country for which they have been ordered and delivered and the buyer will have to impose on his customers the obligation not to export or sell these goods for export.

The buyer shall not enter into any sales contracts with his customers as far as these goods are concerned, without reserving himself the right to cancel the quantities remaining to be delivered under the said contracts, in case of violation of the above obligation.

However it is agreed that the above obligations shall not prevent or limit the export of Titan products in a bona fide manufactured form, as long as the products covered by the agreement do not constitute a proportion of the manufactured products, sufficiently important to substantially interfere with the sales of the parties and those of the companies cooperating with them. The parties will particularly see to it that any reexportation to America, north of the Panama Canal, be avoided.

Disputes, arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavor to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

Force Majeure.

Any force majeure cases, as for instance: impossibility to make deliveries and shipments, due to strike, lock-out, fire, war or acts of God, relieve the parties from the delivery obligation for the period involved. However, in such a case, the parties shall, in the interest of all concerned, do their utmost to eliminate the prejudices resulting from these difficulties and to remove soonest possible the obstacle itself.

If, after an order has been accepted, a force majeure case prevents the deljvery, the order is to be considered as cancelled.

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Discretion.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

If from the stipulations in the present agreement prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit and settled if necessary by the modification of the stipulations in this agreement.

CONTRACT SIGNED:

Leverkusen, June 17th, 1935.

On Behalf of: SOCIETE TITANE: TITANINC.:

G. Jebsen G. Jebsen

Milano, June 5th 1935.

On Behalf of: TERRES RARES: THANN & MULHOUSE:

J. Blumenfeld J. Ourisson

Exhibit G-3

Translated from French
Contral à Six

AGREEMENT

BETWEEN

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE,

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES,
SOCIETA ANONIMA TITANIUM,
SOCIETE INDUSTRIELLE DU TITANE,
TITANGESELLSCHAFT m.b.H.
TITAN COMPANY INC.

WITH

SUPPLEMENT

1935

Exhibit G-3

Titan Company Inc. has made agreements with Titangesellschaft m.b.H. and with Société Industrielle du Titane concerning a technical and comercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Titangesellschaft m.b.H.* with exclusive rights for the following countries:

Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Rumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Poland, Portugal, Dantzig, South America (excluding Guiana) with reservation for South America as specified below.

For the Saar Titangesellschaft has certain rights in conjunction with those of Société Industrielle du Titane. Titan Company Inc. has further an agreement with Titangesellschaft concerning supply of products from the latter's factory in Leverkusen.

b) *Société Industrielle du Titane* with exclusive rights for the following countries:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent). For the Saar Société Industrielle du Titane has certain rights in conjunction with those of Titangesellschaft.

c) *Titan Company Inc.* with exclusive rights for the rest of the world.

Titan Company Inc. has made agreements with:

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Titan Co A/S which has exclusive rights of manufacture and sale for the following countries:

Norway, Sweden, Denmark (with Iceland, Greenland and the Faroe Islands), Finland, Esthonia, Latvia, and Lithuania

and non-exclusive rights of sale of its maritime pastes and paints in all countries.

Titanium Pigment Co., Inc. which has exclusive rights of manufacture and sale for:

the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands. Further, Titanium Pigment Co. Inc. has the right to manufacture and sell in South America.

British Titan Products Company Limited which has exclusive rights of manufacture and sale for:

the British Empire as at present constituted, including protectorates and mandated territories (except the British countries of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent, Demerara, the Falkland Islands and the West Indies), Egypt and Irak.

Société de Produits Chimiques des Terres Rares has made agreements with Fabriques de Produits Chimiques de Thann et de Mulhouse and Società Anonima Titanium,

concerning a technical and commercial cooperation regarding the products of the present contract, according to which the industrial and commercial activities are reserved:

a) *Fabriques de Produits Chimiques de Thann et de Mulhouse* with exclusive rights of manufacture and sale for France including colonies, dependencies, protectorates and mandated territories and Saar. They have non-exclusive rights of sale for all countries in which Société de Produits Chimiques des Terres Rares has not transferred its rights to other companies.

b) *Società Anonima Titanium* with exclusive rights of manufacture and sale for Italy with colonies, dependencies, protectorates and mandated territories, and non-exclusive rights of sale for: Belgium, Holland, Switzerland, British Empire, Spain, Portugal and South America. These non-exclusive rights can be resiliated with 3 months' notice.

c) *Société de Produits Chimiques des Terres Rares*, which has exclusive rights for all countries, with the exception of the rights specified under a) and b) and the rights resulting from the agreements made with:

Krebs Pigment & Colour Corporation, which has acquired the American (U. S. A.) patents of the Blumenfeld group.

Verein für chemische und metallurgische Produktion which has exclusive rights of manufacture and sale in Czechoslovakia, Austria, Hungary, Yugoslavia, and Rumania. Subject to cer-

tain obligations, it has exclusive rights of manufacture and sale in Germany, Dantzig, the Memel District and Denmark. It has with Société des Terres Rares exclusive rights of manufacture and sale in Poland and U. R. S. S.

In order to ensure sales on common lines, the parties hereto, viz:

Società Anonima Titanium (Fabrica di Bovisa), Milan, Italy (hereinafter called Bovisa).

Société de Produits Chimiques des Terres Rares, 67 Rue de Prony, Paris, France (hereinafter called Terres Rares).

Fabriques de Produits Chimiques de Thann et de Mulhouse, Thann, Haut Rhin, France (hereinafter called Thann).

Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A. (hereinafter called Titaninc).

Société Industrielle du Titane, 26 Rue de la Pépinière, Paris, France (hereinafter called Sté Titane)

Titangesellschaft m.b.H., I.G., Werk, Leverkusen a/Rhein, Germany (hereinafter called Titangesellschaft)

have entered into the present agreement.

Article 1.

Products and countries covered by the agreement.

a) *Products covered by the agreement*: As products covered by the agreement are considered all materials or substances containing Titanium having undergone a chemical treatment and with a minimum

content of 2% of the element Titanium and which can be used as pigments—whether chemically combined or mechanically mixed or physically combined (as for instance mixed crystals,) without it being necessary to consider whether they are actually used as pigments or for other purposes. The same principle applies to mixtures of these substances. The parties will indicate to each other in writing those of their products which come under the category above defined.

b) *Countries covered by the agreement*: As countries covered by the agreement are considered all countries of the world, except the British Empire, Egypt, Irak, the Continent of America north of the Panama Canal and all islands geographically appurtenant to the said continent, Hawai and the Philippine Islands.

ARTICLE 2.

Reserved Territories.

The parties recognize mutually exclusive rights of sale and delivery of the products covered by the present agreement, for:

Titangesellschaft and
Verein für chemische und metallurgische Produktion
(hereinafter called "Aussig"):

Germany, Dantzig, Czechoslovakia, Poland, Austria, Hungary, Yugoslavia, Rumania, Russia—hereinafter called "Aussig countries".

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Titangesellschaft, Terres Rares and *Thann*:

Spain, Portugal, Japan, including their colonies, dependencies, protectorates and mandated territories, Switzerland, Bulgaria, Greece, Turkey, China and the part of the Continent of America located to the south of the Panama Canal, excluding Guiana—hereinafter called "Non-Aussig countries", with reservation as to Bovisa's rights according to article 4 and the rights of Titanium Pigment Co. Inc. to manufacture and sell in South America. In case Titanium Pigment Co. Inc. should erect a factory in one of the countries of South America, the parties (Titangesellschaft, Terres Rares, Thann) would be entitled to recover their freedom as far as South America is concerned.

Terres Rares, Thann and Sté Titane:

France including colonies, dependencies, protectorates and mandated territories (excluding those of the Continent of America located to the north of the Panama Canal and all islands geographically appurtenant to the said continent), Monaco, as well as Saar, subject to the result of the plebiscite foreseen —hereinafter called "France", but with reseration as to Bovisa's rights according to article 4 and Titangesellschaft's right to sell in Saar.

Terres Rares, Thann and *Titaning*:

a) Belgium and Luxemburg including colonies, dependencies, protectorates and mandated territories—hereinafter called "Belgium";

b) Holland including colonies, dependencies, protectorates and mandated territories—hereinafter called "Holland";

c) Estonia, Latvia, Lithuania (excluding Memel), Abyssinia, Liberia, Arabia, Afghanistan, Persia, Siam—hereinafter called "Various Countries"

a) and b) with reservation as to the rights of Bovisa according to article 4.

Bovisa:

Italy including colonies, dependencies, protectorates and mandated territories—hereinafter called "Italy".

Titaninc:

Norway, Sweden, Finland.

Titaninc, Aussig:

Denmark (including Iceland, Greenland and the Faroe Islands) and the Memel District.

The parties hereto renounce from selling and delivering products covered by the agreement in favour of the parties which have the exclusive rights specified in the present article, for the countries reserved these parties.

The parties will do their utmost to prevent that the products covered by the agreement and having been sold by them be imported by third parties into the countries which they have given up. However, should this happen, the quotas of the parties will be reduced by the same quantity.

If the goods have been exported into a country in which the supplier has no quota, the quantity is to be deducted

from his quota in a country in which he has delivery rights or, in the choice of the wronged party, a compensation in merchandise shall be made according to the principle laid down in Annex A.

ARTICLE 3.

Rights of delivery for the Non-Aussig countries

The total deliveries of Terres Rares-Thann and Titangesellschaft in the Non-Aussig countries, calculated as TiO2, shall be divided according to the following quotas:

Terres Rares-Thann	30%
Titangesellschaft	70%

The calculation will be made by Titangesellschaft according to the procedure described in Annex A to the present agreement.

By "delivery" is meant "delivered and invoiced to customers".

ARTICLE 4.

Bovisa's export right.

Bovisa has the right to deliver for France, Belgium and Holland an annual quantity of 75 tonnes Ti02. This quantity shall not be delivered direct to the customers but purchased by Terres Rares, Thann, Titaninc and Sté Titane.

If, for a year, the total deliveries of these companies in France, Belgium and Holland, calculated as Ti02, exceed by 10% or more the deliveries of 1933, the quantity to be purchased from Bovisa shall be increased by 12.5 tonnes Ti02 content.

These deliveries shall be made on the conditions stipulated in Annex B to this agreement.

Exhibit G-3

Further, Bovisa has the right to deliver in the Non-Aussig countries products covered by this agreement, up to an annual quantity of 175 tonnes Ti02 content. This quantity will be divided as follows:

117 t. on the quota of Terres Rares-Thann
58 " " " " " " Titangesellschaft.

If, for a year, the quota of Terres Rares-Thann in the Non-Aussig countries is below 117 tonnes, Terres Rares-Thann shall take upon themselves the deficit up to a quantity of 25 tonnes. If the deficit is above 25 t. the part of the deficit exceeding 25 t. will be borne by Bovisa.

The quantity of 58 t. to be taken by Titangesellschaft shall not be reduced under any circumstances, except in the case provided for in article 5.

If, for a year, the total deliveries in the Non-Aussig countries, calculated as Ti02, exceed by 10% or more the deliveries in 1933, Bovisa's right of delivery for the Non-Aussig countries will be increased by 12.5 t. Ti02 content, to be divided as follows:

Terres Rares-Thann	3.75 t.
Titangesellschaft	8.75 t.

By "delivery" is meant "delivered and invoiced to customers".

ARTICLE 5.

Restriction of Bovisa's export rights.

Bovisa binds itself, for itself as well as for the enterprises which may possibly cooperate with is (see article 7 and 9), to increase its production capacity, including that

of the enterprises which may possibly cooperate with it, only to the extent and at the time justified by the requirements of the Italian market.

If, in a year, the market of Bovisa in Italy, including colonies, dependencies, protectorates and mandated territories, adding the quantities granted by article 4, increases so as to absorb more than 1500 t. TiO_2, the export rights of Bovisa shall be reduced by this excess quantity. This reduction will be applied proportionally to the respective obligations stipulated in article 4.

Consequently, if in a year, Bovisa's deliveries in Italy with colonies, dependencies, protectorates and mandated territories, reach 1500 tonnes of TiO_2, Bovisa's export rights shall cease to exist for the year in question.

Article 6.

Sales prices in the Non-Aussig countries.

As long as the parties themselves sell their products in the Non-Aussig countries, each of them will be free to fix the prices. However, in order that the prices may be brought as far as possible to the same level, the parties will regularly exchange their opinion on the subject. Each party is obliged to give all desirable information regarding its prices.

If the sales are made jointly, the sales prices and terms will be fixed by the party in charge of the sales.

For the sale of pure TiO_2 by those of the parties who fix their sales prices and conditions by mutual consent, an adjustment of the sales proceeds shall take place as described in Annex A to the present agreement.

As far as the other qualities are concerned, no adjustment of this kind will take place; the deliverer will thus remain in full possession of the amount received. However, it is assumed that the supplier of such a quality will obtain about the same profit, proportionate to the Ti02 content, as for the sale of pure Ti02. If this assumption does not materialise and if the deliverer's sales prices and conditions have been fixed in agreement with the other parties, the parties will have to agree on an indemnity in favour of the deliverer, in order to compensate the difference.

Article 7.

Competition and secrecy clause.

Except in the cases foreseen in article 9 hereafter, the parties shall be prohibited, during the continuance of the present agreement, from participating directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver in the countries covered by the agreement, except to one of the parties, the products covered by the agreement, or to assist them in any way whatever, as regards their installation or operations, by technical or commercial advices or preferential deliveries, grant of licenses, assignment of patents, etc. The same obligations are incumbent on the persons employed by the parties, within the limits of their engagement contracts and the limits of the laws.

It will not be considered a violation of the obligation under paragraph 1, to take an interest in an enterprise manufacturing other products besides those coming under this agreement, provided the object of this interest are these other products.

In such a case the party in question shall have to subject the deliveries of products covered by the agreement, made by this enterprise in the countries covered by the agreement, to the stipulations of the present agreement, by adding them to its own deliveries.

The parties bind themselves not to supply intermediary products to third parties likely to utilise them for the manufacture of products covered by the agreement.

The parties hereto undertake to keep this agreement secret towards third parties as far as possible.

Article 8.

Patents concerning the use of the products of the agreement.

During the life of the patents concerning the use of the products of the agreement, the parties acknowledge mutually, for themselves and their respective customers, the right to use these patents gratuitously as far as the countries of the agreement are concerned, as well as patent applications published during the continuance of the agreement.

In case a license in respect of patents concerning the use of the products of the agreement is granted to a customer, the parties shall as far as possible bind him to use for the application of the license and for its duration solely the products of the parties, leaving him, however, free choice to procure them from any of the parties authorized to sell in the country in question.

Each party further undertakes, during the continuance of the agreement and in the countries covered by the agreement, to refrain from rising opposition against patent applications filed by another party, concerning the use of the products of the agreement.

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ARTICLE 9.

Succession or transfer of rights to third parties.

The present agreement shall bind not only the companies who are signatories thereto, but also their successors, assigns or anybody having rights under the agreement, who shall have to assume all the obligations resulting therefrom.

The grant of an exclusive license comprising all the products of the agreement, for one or several countries of the agreement, shall not constitute a violation of the obligation of paragr. 1 of art. 7 and each party may sell, lease or transfer to a third party all its factories for the manufacture of the products of the agreement or all its patents for the manufacture of the products of the agreement, together with its entire quota.

In all other cases, an assignment by a party of the quota or part thereof to third parties shall be subject to the consent of the other parties.

In the cases foreseen above each party signatory to the present agreement shall remain responsible towards the other parties until it has been expressly released by them.

ARTICLE 10.

Disputes, Arbitration.

In case of disputes or differences of opinion with regard to this agreement, the parties hereto will endeavour to settle the difficulties in a friendly spirit.

If unsuccessful, the difficulties shall be settled according to the conditions of conciliation and arbitration of the International Chamber of Commerce, by one or several arbitrators appointed according to the rules of the said Chamber of Commerce.

The arbitrator's decision shall be definite and without appeal.

ARTICLE 11.

Duration.

The present agreement enters into force on the day of its signature. Except in the cases foreseen in the articles 12 and 13, it can only be denounced as per December 31, 1938 with 6 months notice, i. e. given on June 30, 1938. If no notice has been given, the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question.

The quota system foreseen by the present agreement is to be applied with retroactive effect as from May 1st 1934.

Once the agreement is denounced but not earlier than 2 months before its expiration, each party can make sales on any conditions for the period following the expiration of the agreement.

Deliveries against sales contracts in force at the definite termination of the agreement are to be included in the settlement only if such deliveries have been made prior to the date of this termination.

ARTICLE 12.

Anticipated resiliation.

The present agreement may be resiliated at an earlier date than foreseen in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities, resulting from governmental measures or from a new competition.

2) Any governmental or legislative measure contrary to the present contract or making it partly or wholly illegal.

If the reasons for an anticipated resiliation should present themselves only in one of the secondary countries of the agreement, the maintenance of the agreement might be exacted for the countries not affected by the event in question.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months' notice.

Once the agreement is denounced but not earlier than 2 months before its termination, each party can make sales on any conditions for the period following the termination of the agreement.

ARTICLE 13.

Relation to other agreements.

The present agreement is closely connected with the agreement made in order to ensure sales on common lines, on June 5/17/1935 between: Titaninc, Sté Titane, Terres Rares and Thann. The latter agreement contains the following resiliation clauses:

a) in article 15:

It (the agreement) "can only be denounced as per December 31, 1938 with 6 months notice,

Exhibit G-3

i.e. given on June 30, 1938. If no notice has been given the agreement continues to run for periods of 2 years if it is not denounced 6 months before the expiration of each period. Notice will be considered as having been given in due time if it has been dispatched by registered mail to all the parties, not later than June 30 of the year in question."

b) In article 16:

"The present agreement may be resiliated at an earlier date than foreseen in case of events beyond the control of the parties, of such a nature as to prevent its fulfilment or which would make it prejudicial to one of the parties.

As events of such a nature are considered for instance:

1) A profound change of the sales possibilities resulting from governmental measures or from a new competition.

2) Any governmental or legislative measure contrary to the present contract or making it partly or wholly illegal.

If the reasons for an anticipated resiliation should present themselves only in part of the countries covered by the agreement outside France, Belgium and Holland, the maintenance of the agreement might be exacted for the countries not affected by the event in question.

The anticipated and full resiliation of the present agreement shall also take place if Tita-

nine denounces it according to its right foreseen in article 5.

In case of anticipated resiliation, the present agreement may be denounced as per the end of a month with 3 months' notice".

c) In article 5:

". . . should Terres Rares-Thann object to a change in prices proposed by Titanine for Belgium and Holland, the latter would be entitled to denounce the entire agreement".

Should the agreement between Titanine, Sté Titane, Terres Rares and Thann be denounced according to one of these clauses, the present agreement may also be denounced with 5 months' notice and as per the end of the month, on the condition, however, that this notice be given within 60 days from the date of mailing the notice of the other above mentioned agreement to the parties.

The party which denounces the present agreement or the agreement of June 5/17/1935 above mentioned, will inform each of the other parties to these two agreements, without delay, by registered letter.

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ANNEX "A"

ANNEX TO THE CONTRACT OF JUNE 5/10/17/1935

ARTICLE 3.

I. *Settlement of the compensations in merchandise for the "Non-Aussig" countries.*

1. *Preliminary statements of quantities.*

The parties will send each other every month by circular letter a preliminary statement of the quantities of TiO2 delivered by them in the "Non-Aussig" countries.

Bovisa will advise the parties as soon as its deliveries in Italy, its colonies, dependencies, protectorates and mandated territories shall reach a rate of 1225 tonnes per annum; as long as these deliveries will be between 1225 and 1500 tonnes per annum Bovisa will furnish the information necessary to determine the reductions of its exports foreseen in article 5.

These statements will be made out according to the following schedule:

..... Kg. TiO2 in Titanium Dioxide
..... " " " " Pigments

Total..... Kg. TiO2

These statements will be transmitted to the other parties not later than the 15th of the month following the month of delivery.

2. *Final statements of quantities.*

A statement of the quantities actually delivered will be established by each of the parties every three months, ac-

cording to the above schedule, and transmitted to the other parties within 30 days from the end of the respective quarter.

3. *Preliminary comparative statements of quantities.*

These statements will be established by Titangesellschaft every three months in order to ascertain the differences between the deliveries of each party and its quota. These preliminary statements will enable the parties, in the course of the year, to adapt as far as possible their sales to their quotas, in order to avoid considerable differences at the end of the year.

4. *Final statements of quantities.*

The parties will communicate to each other by circular letter, within 42 days from the end of each year, the quantities delivered by them during the year in question and their TiO2 content, according to the above schedule.

On the basis of this information, Titangesellschaft will establish a statement giving the differences between the deliveries of each party and its quota for the year in question.

5. *Compensation in merchandise.*

The party which has exceeded its quota will have to purchase from the party which has not reached its quota a quantity equal to the excess quantity, at the average price stated below (paragr. II 1))—less 5% sales commission—fob export port or free frontier of the export country. The deliveries will have to be of good saleable merchandise, if not otherwise stipulated: 97 to 98% TiO2, and according to sample accepted by the buyer. If the quality of this merchandise does not permit to sell it at the normal price, the

possible reduction in price shall be borne by the manufacturer who remains responsible for the quality of his merchandise, even after re-sale by the other parties.

The quantities resulting from the adjustment of the year 1934 shall be divided equally over the four following years. The compensation for the following years shall be made for each of these years within the six months following the year in question. Deliveries which, in spite of request made in due time, are not made within the period provided for, may be cancelled by the buyer without his being obliged to grant an extra delay for delivery.

The payment of the goods is to be made within 30 days from the date of invoice.

It shall not be necessary that the compensation in merchandise be effected by deliveries from one factory to another, it can be carried through by transfer of orders from the buyer to the seller. If, in spite of the offer from the seller, the buyer has not taken delivery of the compensation merchandise before the end of the first 6 months of the year, the seller shall be authorized to invoice the quantity in question and to place it at the disposal of the party which ought to have taken delivery thereof. Payment within 30 days of the date of the invoice.

The party which has not reached its quota may give up its rights to compensation.

II. *Adjustment of the sales proceeds.*

1. *Statement of accounts.*

The adjustment of the sales proceeds shall only apply to the deliveries of pure TiO_2, the other pigments are only to be included in the statements of quantities. When issuing the annual statement of deliveries, the parties shall at the

same time state the net proceeds (fob export port or free frontier of the export country), obtained by them for the quantities of TiO_2 delivered in the preceding year.

In order to determine these net proceeds, expenses and taxes such as the following shall be deducted from the amount of the invoice:

a) Transport and insurance expenses from fob export port or free frontier of the export country to the customer including intermediary storage.

b) Sales taxes (such as the turnover tax).

c) Rebates.

d) Extra expenses for small packings (below 200 Kg.).

e) Duty, custom expenses, consular fees, etc.

f) Import tax.

On the basis of these net proceeds Titangesellschaft will calculate the average price which is due the parties participating in the adjustment and which will permit the calculation of the amount each of them has obtained too much or too little.

2. *Payment*

The balances are to be paid within 10 days from the date the statement of account was established.

If from the stipulations in the present annex prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit and settled, if necessary, by the modification of the stipulations in this annex.

Exhibit G-3

ANNEX "B"

ANNEX TO THE CONTRACT OF JUNE 5/10/17/35 ARTICLE 4.

Purchase price for the 75 tonnes from Bovisa.

The purchase price for the 75 tonnes of Ti02 and for the possible additional 12.5 t. shall be based on the net average sales price of the buyer for Ti02 in the territories in question, viz:

"France" for delivery of 56 t. plus possibly 9 t.
"Belgium" " " " 10 " "
"Holland" " " " 9 " "

However, the buyers are free to direct the goods purchased by them to any destination in their market, without this affecting the fixation of the purchase price.

In order to fix the net average sales price, should be deducted from the total amounts of the invoices for pure Ti02 the expenses which Bovisa would have had to carry in case of direct sale by them to the customers, such as:

a) Transport and insurance expenses from f.o.b. Genoa to the buyer's warehouse (Clichy, resp. Thann, Antwerp and Rotterdam).

b) Sales taxes such as turnover tax.

c) Rebates.

d) Sales commission (fixed arbitrarily at 5% of the invoice amount).

e) Extra expenses for small packings (below 200 Kg.).

Exhibit G-3

f) Duty, custom expenses, consular fees, etc.

g) Import tax.

h) 3% publicity expenses.

Quality.

If the quality of Bovisa's merchandise is different from that of Titangesellschaft or Thann, and therefore commands another price in the market, the difference shall be either to the credit or to the debit of Bovisa which remains responsible for the quality of its merchandise even after re-sale by the other parties.

Time of delivery.

The quantities shall as far as possible be ordered, half during the first 6 months, half during the second 6 months of the year, unless there is reason to believe that deliveries shall cease as a result of the development of the Italian market (see article 5).

Terms of payment.

The payment shall take place within 30 days from the date of invoice, provisionally at the minimum official sales price, less expenses enumerated above. The final settlement shall take place as soon as the final price for the year has been fixed.

If from the stipulations in the present annex prejudicial situations should arise for one or the other party, the question shall be dealt with by the parties in a friendly spirit

and settled, if necessary, by the modification of the stipulations in this annex.

AGREEMENT AND ANNEXES SIGNED:

Leverkusen, June 17th, 1935.

On behalf of: Titangesellschaft: Titanine: Société Titane:

Kuhne, G. Jebsen, G. Jebsen,

Bruggemann,

Milano, June 10th, 1935.

On behalf of: Bovisa:

Castellani and unknown signature.

Milano, June 5th, 1935.

On behalf of: Terres Rares: Thann:

J. Blumenfeld J. Ourisson.

Exhibit G-3

Translated from French

SUPPLEMENT

To the Contract of June 5.10.17.1935 Between "Thann", "Terres Rares", "Bovisa", "Societe Titane", "Titangesellschaft" and "Titaninc".

In Partial derogation from articles 4 and 5 of the said contract, it is agreed that the quantities which Bovisa reserved itself the right to export shall not be reduced below 120 tons.

When Bovisa's exports will have dropped to these 120 tons, the exports will be divided as follows:

16 t.5 are to be bought by Terres Rares—Thann on the conditions stipulated for "France" at a price foreseen in the annex B.

20 t. are to be bought by Titaninc and Sté Titane on the conditions stipulated for "France" at a price foreseen in the annex B.

56 t.5 are to be disposed of in the "Non Aussig" countries to be deducted from the quota of Terres Rares—Thann.

27 t. are to be disposed of in the "Non Aussig" countries to be deducted from the quota of Titangesellschaft.

Exhibit G-3

Signed: *London, October 26th, 1935*

Titaninc: Société Titane:

G. Jebsen G.Jebsen

Leverkusen, October 24th, 1935

Titangesellschaft:

Kuhne, Bruggemann,

Milano, October 22nd, 1935

Terres Rares: Thann:

J. Blumenfeld J. Ourisson

Milano, October 21st, 1935

Bovisa:

Castellani and unknown signature.

Exhibit H

AGREEMENT made and entered into this 6th day of May ~~April~~ in the year one thousand nine hundred and thirty-five by and between TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under and by virtue of the laws of the State of Maine with a place of business in the City and State of New York (hereinafter referred to as TITANIUM), and AMERICAN ZIRCONIUM CORPORATION, a corporation organized and existing under and by virtue of the laws of the State of Maryland with a principal place of business in the City of Baltimore, Maryland, (hereinafter referred to as ZIRCONIUM)

WITNESSETH

WHEREAS Titanium is the owner of all right, title and interest in and to letters patent of the United States, and in and to the respective inventions thereof, listed and enumerated as follows:

Barton No. 1,251,170 of December 25, 1917;
Rossi No. 1,272,855 of July 16, 1918;
Barton No. 1,283,455 of November 5, 1918;
Barton No. 1,286,916 of December 10, 1918;
Barton No. 1,288,473 of December 24, 1918;
Barton No. 1,313,874 of August 26, 1919;
Barton No. 1,317,854 of October 7, 1919;
Barton No. 1,322,518 of November 25, 1919;
Barton No. 1,326,319 of December 30, 1919;
Wrigley No. 1,338,473 of April 27, 1920;
Barton No. 1,348,843 of August 10, 1920;

Barton No. 1,362,917 of December 21, 1920;
Barton No. 1,365,882 of January 18, 1921;
Buckman No. 1,396,924 of November 15, 1921;
Buckman No. 1,402,256 of January 3, 1922;
Barton No. 1,409,648 of March 14, 1922;
Buckman No. 1,410,056 of March 21, 1922;
Buckman No. 1,411,839 of April 4, 1922;
Buckman No. 1,429,841 of September 19, 1922;
Doremus No. 1,501,587 of July 15, 1924;
Barton No. 1,680,316 of August 14, 1928;
Barton No. 1,695,270 of December 18, 1928;
Ryan No. 1,697,929 of January 8, 1929;
Doerinckel No. 1,738,765 of December 10, 1929;
Schnetka No. 1,758,472 of May 13, 1930;
Farup No. 1,773,727 of August 26, 1930;
Ryan No. 1,820,987 of September 1, 1931;
Ryan No. 1,820,988 of September 1, 1931;
Farup No. 1,831,852 of November 17, 1931;
Sabin No. 1,847,539 of March 1, 1932;
Leuchs No. 1,853,626 of April 12, 1932;
Washburn No. 1,889,027 of November 29, 1932;
Washburn No. 1,906,729 of May 2, 1933;
Washburn No. 1,906,730 of May 2, 1933;
Ryan No. 1,916,236 of July 4, 1933;
Ryan No. 1,929,521 of October 10, 1933;
Cauwenberg No. 1,957,528 of May 8, 1934;
Cauwenberg No. 1,969,061 of August 7, 1934; and

WHEREAS, Titanium is the sole and exclusive licensee, with the right to grant sublicenses upon certain conditions hereinafter expressed and made a part hereof, of letters patent of the United States, and of the respective inventions thereof, listed and enumerated as follows:

Exhibit H

Goldschmidt No. 1,276,644 of August 20, 1918;
Fladmark No. 1,288,863 of December 24, 1918;
Jaeger No. 1,317,164 of September 30, 1919;
Jaeger No. 1,317,165 of September 30, 1919;
Farup No. 1,325,561 of December 23, 1919;
Jebsen No. 1,333,819 of March 16, 1920;
Olsen No. 1,333,849 of March 16, 1920;
Farup No. 1,341,307 of May 25, 1920;
Farup No. 1,343,441 of June 15, 1920;
Goldschmidt No. 1,343,446 of June 15, 1920;
Goldschmidt No. 1,343,447 of June 15, 1920;
Nielsen No. 1,343,468 of June 15, 1920;
Nielsen No. 1,343,469 of June 15, 1920;
Goldschmidt No. 1,348,129 of July 27, 1920;
Farup No. 1,360,737 of November 30, 1920;
Jebsen No. 1,361,866 of December 14, 1920;
Jebsen No. 1,361,867 of December 14, 1920;
Farup No. 1,368,392 of February 15, 1921;
Goldschmidt No. 1,389,191 of August 30, 1921;
Washburn No. 1,412,027 of April 4, 1922;
Goldschmidt No. 1,436,164 of November 21, 1922;
Farup No. 1,539,996 of June 2, 1925;
Weise No. 1,813,649 of July 7, 1931;
Raspe No. 1,849,153 of March 15, 1932;
Raspe No. 1,850,154 of March 22, 1932;
Mittasch No. 1,850,286 of March 22, 1932;
Farup No. 1,852,510 of April 5, 1932;
Brode No. 1,891,911 of December 27, 1932;
Farup No. 1,919,425 of July 25, 1933;
Teichmann No. 1,934,778 of November 14, 1933;
Teichmann No. 1,941,285 of December 26, 1933; and

Exhibit H

WHEREAS, Zirconium is desirous of obtaining a license under said Letters Patent and each of them; and

WHEREAS, Zirconium is the owner of all right, title and interest in and to Letters Patent of the United States, and in and to the respective inventions thereof, listed and enumerated as follows:

Lubowsky No. 1,640,952 of August 30, 1927;
Lubowsky No. 1,793,501 of February 24, 1931;
Lubowsky No. 1,843,427 of February 2, 1932;
Lubowsky No. 1,888,993 of November 29, 1932;
Rhodes No. 1,922,328 of August 15, 1933;
Rhodes No. 1,931,682 of August 24, 1933;
Richter No. 1,932,087 of October 24, 1933;
Richter No. 1,947,226 of February 13, 1934; and

WHEREAS, Titanium is desirous of obtaining a license under said Letters Patent and each of them;

NOW THEREFORE, in consideration of the premises and of the sum of one dollar lawful money of the United States and other good and valuable consideration by each of the said parties to the other in hand paid, the receipt of which is hereby severally acknowledged, and of the mutual covenants, conditions and agreements hereinafter set forth on the part of the respective parties to be respectively observed and performed, the parties hereto do hereby agree to and with each other as follows:

1. DEFINITIONS. (a) The designation "Licensed Field" wherever herein employed, means and includes (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing in chem-

ical, mechanical or physical combination two per cent (2%) or more of the element titanium, and mixtures of such compounds, which can be used as pigments, whether or not adapted for other uses; and (2) all such titanium compounds and mixtures thereof which can be used as pigments, whether or not adapted for other uses.

(b) The designation "Finished Article" wherever herein employed means any artificially produced article or composition within the "Licensed Field" which has been manufactured by aid of any process or apparatus or both so as to constitute a cohesive intermixture of titanic material with other material with which such titanic material was not previously intermixed or associated as, for example, in paint, rubber, glass and titanated lithophone.

II. Titanium hereby gives and grants to Zirconium and Zirconium hereby accepts from Titanium, upon the terms and conditions hereinafter specified, a non-exclusive right and license to make, use and/or sell, throughout the United States of America, its territories and dependencies, but not elsewhere, to the same extent that Titanium itself is free to make, use and/or sell the same, each and every invention, improvement or subject matter in the "Licensed Field" claimed in or covered by the Letters Patent hereinabove enumerated and in or by any and all other Letters Patent now or hereafter owned by or otherwise at the disposal of Titanium and with respect to which Titanium is or shall be privileged to grant sublicenses, provided always, however, that the license so granted shall not permit Zirconium to sell or export for sale, directly or indirectly, outside of the United States of America, its territories and dependencies, except to the extent hereinafter provided with respect to "Finished Articles", any products within the "Licensed Field" manufactured in

whole or in part under and in accordance with the Letters Patent herein licensed or any of them.

III. Zirconium hereby gives and grants to Titanium and Titanium hereby accepts from Zirconium, upon the terms and conditions hereinafter specified, a non-exclusive right and license to make, use and/or sell throughout the United States of America, its territories and dependencies, to the same extent that Zirconium itself is free to make, use and/or sell the same, each and every invention, improvement or subject matter in the "Licensed Field" claimed in or covered by the Letters Patent hereinabove enumerated and in or by any and all other Letters Patent now or hereafter owned by or otherwise at the disposal of Zirconium and in respect to which Zirconium shall be privileged to grant sub-licenses.

IV. As Titanium is under obligation to other licensors to render periodic reports of its production and that of its sublicensees within the "Licensed Field", Zirconium shall keep accurate account of all its own production within that field and on or before the 31st day of January and July of each year shall render to Titanium, verified under the oath of one of its officers, true statements of all its production within the "Licensed Field" during the six months ended December 31st or June 30th next preceding, as the case may be; and Titanium shall have the right, upon request, to have any such statement audited by an independent certified public accountant or other person acceptable to Zirconium.

V. Each party hereby acknowledges the validity of the several Letters Patent hereinabove enumerated and the ownership or control thereof by the other party, and agrees

that it will never directly or indirectly question or contest the validity of any of said Letters Patent, nor of any other Letters Patent hereafter licensed hereunder, nor use nor infringe the inventions thereof except as herein licensed, nor directly or indirectly connive with, nor afford any pecuniary or other assistance to, any contestant or questioner of the validity thereof or any infringer thereof, this covenant to remain in force for the full term of each and all of said Letters Patent irrespective of any earlier termination of this agreement in accordance with the provisions hereof.

VI. Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof.

VII. Each party hereto agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the "Licensed Field" which may be made by them or any of them prior to the end of the last expiring term of the Letters Patent hereinabove enumerated.

VIII. Zirconium agrees to grant to Titanium and/or any licensee or sublicensee of Titanium specified by Titanium an exclusive right and license, exclusive of all others including Zirconium, throughout all countries of the world other than the United States of America, its territories and dependencies, to manufacture, use and/or sell each and every invention, improvement or subject matter within the "Licensed Field", whether or not patented or patentable, now owned or controlled by Zirconium or hereafter and during the term of this agreement made, discovered or acquired by it or otherwise at its disposal. Zirconium further agrees, whenever it or any person licensed by it other than Titanium files an application for a United States Letters Patent on an invention in the "Licensed Field", to send to Titanium within two months from the date of such filing a copy of such application and, upon request of Titanium in writing and within two months of the receipt of such request by Zirconium, all papers necessary to permit the filing of an application for patent on such invention in any country of the world outside of the United States of America, its territories and dependencies, and, so far as in its power lies, papers vesting in Titanium or any licensee or sublicensee of Titanium specified by Titanium an exclusive license in and for any such country to manufacture under and in accordance with said invention and/or to use and/or sell the product thereof throughout the full term of any patent granted therefor.

IX. Zirconium shall and hereby does constitute and appoint and shall hereafter continuously retain Titanium or any licensee or sublicensee of Titanium specified from time to time by Titanium, to the exclusion of all others, as

the sole agent of Zirconium throughout the term of this agreement for the introduction and sale outside of the United States of America, its territories and dependencies, of all products of Zirconium within the "Licensed Field", upon such orders of said agent therefor at current market prices of Zirconium as the latter shall elect to fill, the same to be sold by said agent only in territories outside of the United States of America, its territories and dependencies, at prices and upon terms and conditions to be fixed by said agent; and Zirconium shall not make any sale or transfer of any of its said products in or for any territory outside of the United States of America, its territories and dependencies, except through its said exclusive agent and as aforesaid; provided, however, that notwithstanding the agency or agencies created by this Article, Zirconium may export into the territory of any such agent "Finished Articles" as hereinbefore defined in the manufacture of which titanium products produced by Zirconium or by one of its licensees or sublicensees have been used as raw material and of which such titanium products shall not constitute such an important part that the sale thereof within the territory of such agent will substantially interfere with such agent's sales of its own titanium products in its territory; provided further, that upon the receipt by Zirconium of notice from any such agent that such importation of such "Finished Articles" into the territory of such agent does in fact interfere with such agent's sales of its own products, Zirconium shall endeavor to prevent any further such importation, and Titanium agrees, for itself and its licensees and sublicensees, that it will not sue Zirconium or any purchaser from or customer, direct or indirect, of Zirconium on account of the exportation or sale and use of any such "Finished

Articles" outside of the United States of America, its territories and dependencies, until after the expiration of six months from the time such notice as aforesaid shall have been given to Zirconium.

X. In the event of any violation or failure of performance on the part of either party hereto of any of the terms and conditions of this agreement to be performed or assumed by it the other party may by notice in writing mailed to the delinquent party at its last known post office address notify the delinquent party of such delinquency, and unless such delinquency has ceased and satisfaction therefor been made within six months after the mailing of such notice the other party may at its option terminate the license or licenses granted such delinquent party hereunder by notice in writing to that effect mailed to the delinquent party at its last known post office address. Such termination of any license or licenses as in this Article hereof provided shall not release the delinquent party from any obligation or liability to the other party hereunder which may have accrued at the date of such termination, nor terminate any license or licenses granted by the delinquent party hereunder.

XI. It is mutually understood and agreed that any omission on the part of either party on any one or more occasions to assert or exercise any of its rights hereunder shall not be deemed or construed to constitute a continuing waiver of such right nor preclude or limit the other party from or in the assertion or exercise of the same on any subsequent occasion.

Exhibit H

XII. Except as hereinbefore otherwise provided with respect to the grant of licenses by Zirconium for countries outside the United States of America, its territories and dependencies, this agreement and the licenses hereby granted are personal to the respective parties and neither party shall have any right or power to assign this agreement or the license or licenses hereby granted, or to grant sublicenses thereunder in whole or in part, except to a successor to the entire business and good will of such party and then only with the consent in writing of the other party first had and obtained.

XIII. Unless sooner terminated as herein provided this agreement and the licenses hereby granted shall continue and remain in force until August 7, 1951, and shall then terminate; provided, however, that each and every license then in effect hereunder with respect to Letters Patent extending beyond August 7, 1951, shall continue and remain in force throughout the full term of said respective Letters Patent.

XIV. This agreement and all the terms and conditions thereof and all questions arising thereunder shall be construed and decided according to the law of the State of New York.

IN WITNESS WHEREOF the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized, and their respective cor-

porate seals to be hereunto affixed and duly attested; the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.

by

R. M. ROOSEVELT
President

[CORPORATE SEAL]

Attest:
J. D. MEREDITH
Secretary

AMERICAN ZIRCONIUM CORPORATION

by

ADRIAN D. JOYCE
President

[CORPORATE SEAL]

Attest:
HUBERT E. ROGERS
Secretary

Exhibit H-1

AGREEMENT made this sixth day of May, 1935, by and between Titanium Pigment Company, Inc., (hereinafter called "Titanium"), a corporation of the State of Maine, and American Zirconium Corporation, (hereinafter called "Zirconium"), a corporation of the State of Maryland, and The Glidden Company, (hereinafter called "Glidden"), a corporation of the State of Ohio, and Metal & Thermit Corporation, (hereinafter called "Thermit"), a corporation of the State of New Jersey.

WITNESSETH:

WHEREAS, in and by an agreement in writing between Titanium and Zirconium, executed simultaneously herewith and bearing even date herewith, (hereinafter referred to as "License Agreement") among other things Titanium granted to Zirconium a license under or with respect to the letters patent of the United States therein described, upon the terms and conditions set forth in said "License Agreement" and

WHEREAS, said "License Agreement" is entered into among other things upon the faith of this agreement by Titanium and Zirconium, and

WHEREAS, Glidden and Thermit together own and control a majority of the shares of the capital stock of Zirconium having voting rights;

NOW, THEREFORE, in consideration of the premises and of the sum of One Dollar, lawful money of the United States, by each of the parties to the other in hand paid,

and of other good and valuable consideration, the receipt of which is hereby acknowledged, the parties hereto do hereby agree to and with each other as follows:

FIRST: In lieu of royalties and other payments for the license granted to Zirconium by Titanium in and by said "License Agreement", and in consideration thereof, Zirconium hereby agrees to issue and deliver to Titanium one thousand one hundred and twelve (1,112) shares of the common stock of Zirconium full paid and non-assessable, presently to be authorized for such purpose. The certificate or certificates from time to time issued representing said shares shall bear the following endorsement "The shares represented by this certificate are subject to agreement dated the 6th day of May, 1935, between the Titanium Pigment Company, Inc., American Zirconium Corporation, The Glidden Company and the Metal & Thermit Corporation."

SECOND: Zirconium agrees that it will not issue or authorize the issuance of any shares of the common stock of Zirconium in excess of eleven thousand one hundred and twelve (11,112) shares or any shares of the preferred stock in excess of six thousand (6,000) shares of which four thousand two hundred thirty-two (4,232) shares are now issued and outstanding without offering such additional shares to all common stockholders pro rata.

THIRD: Titanium agrees that during the period of the "License Agreement" it will not sell or otherwise dispose of the above One Thousand One-hundred and Twelve (1,112) shares of the Common Stock of Zirconium without first offering such stock proposed to be sold or other-

wise disposed of at the same price as Titanium is offered by a responsible bona fide bidder, to Glidden and Thermit, one-half thereof to each and if either of them do not purchase such shares so offered within thirty (30) days thereafter then offering the entire amount thereof to the other party; and Glidden and/or Thermit shall have the right within thirty (30) days after receiving such offer to purchase such stock so offered at the price and upon the same terms as are offered; if within the thirty (30) days Glidden and/or Thermit fail to purchase such stock Titanium shall be free to dispose of the same, and thereafter such stock shall not be subject to the provisions of this paragraph.

FOURTH: Glidden and Thermit severally agree that during the period of the "License Agreement", they will not sell or otherwise dispose of their shares of the common stock of Zirconium, except to each other, without first offering such stock proposed to be sold or otherwise disposed of, at the same price as they are offered by a responsible bona fide bidder to Titanium and Titanium shall have the right within thirty (30) days after receiving such offer to purchase such stock so offered at the price and upon the same terms as are offered; if within the thirty (30) days Titanium fails to purchase such stock Glidden and/or Thermit shall be free to dispose of the same and thereafter such stock shall not be subject to the provisions of this paragraph.

FIFTH: Titanium further agrees that if it shall elect to cancel the "License Agreement" as provided for in paragraph X of such Agreement, it will return to Zirconium along with said notice of termination the One Thousand

Exhibit H-1

One-Hundred and Twelve (1,112) shares of the Common Stock of Zirconium above mentioned and that any notice of termination that may be given unless accompanied by the shares as hereinabove provided shall be wholly void and ineffective.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized, and their respective corporate seals to be hereunto affixed and duly attested, the day and year first above written.

TITANIUM PIGMENT COMPANY, INC.,

By R. M. ROOSEVELT

President.

Attest:

J. D. MEREDITH

Secretary

(SEAL)

AMERICAN ZIRCONIUM CORPORATION,

By ADRIAN D. JOYCE

President.

Attest:

HUBERT E. ROGERS

Secretary.

(SEAL)

Exhibit H-1

THE GLIDDEN COMPANY

By ADRIAN D. JOYCE

President.

Attest:

CLIFTON M. KOLB,

Secretary

(SEAL)

METAL & THERMIT CORPORATION,

By J. H. HIRSCHLAND

President.

Attest:

HUBERT E. ROGERS

Secretary

(SEAL).

Exhibit H-2

AGREEMENT made this 6th day of May, 1935, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation of the State of New Jersey, and TITANIUM PIGMENT COMPANY, INC., (hereinafter called TITANIUM), a corporation of the State of Maine, of the one part, and THE GLIDDEN COMPANY (hereinafter called GLIDDEN), a corporation of the State of Ohio, METAL & THERMIT CORPORATION (hereinafter called THERMIT), a corporation of the State of New Jersey, and AMERICAN ZIRCONIUM CORPORATION (hereinafter called ZIRCONIUM), a corporation of the State of Maryland, of the other part

WITNESSETH

WHEREAS, Titanium and Zirconium are executing simultaneously herewith a certain agreement in writing bearing even date herewith (hereinafter referred to as the License Agreement), wherein and whereby each grants to the other among other things certain licenses under or with respect to Letters Patent of the United States therein described within the "Licensed Field" therein defined, upon the terms and conditions set forth in said License Agreement; and

WHEREAS, said License Agreement is executed by the parties thereto among other things in consideration and upon the faith of the execution of this agreement by the parties hereto and

WHEREAS National owns and controls all of the capital stock of Titanium; and Glidden and Thermit together own and control a majority of the shares of the capital stock of Zirconium having voting rights;

Exhibit H-2

NOW THEREFORE, in consideration of the premises and of the sum of One Dollar lawful money of the United States by each of the parties hereto to the other in hand paid, and of other good and valuable considerations, the receipt of which is hereby severally acknowledged, the parties hereto do hereby covenant and agree to and with each other as follows:

FIRST. National hereby guarantees, promises and agrees to and with Glidden, Thermit and Zirconium and each of them that Titanium will well and faithfully perform and fulfill everything in the above mentioned License Agreement on its part and behalf to be performed and fulfilled, and does hereby further agree, for itself and its subsidiary corporations, that insofar as in its power lies it will on its part fully respect the above mentioned License Agreement between Titanium and Zirconium and that so long as said License Agreement remains in force it will not against either of the parties thereto or against any licensee or successor in interest of either of them question or contest the validity of or infringe any of the Letters Patent covered by said License Agreement, nor afford any assistance to any one in questioning or contesting the validity thereof or infringing the same, and will not do any other act in derogation of said License Agreement; and further will promptly communicate to Titanium the results of any experience gained or knowledge acquired by it within the "Licensed Field" as defined in said License Agreement, and will promptly assign to Titanium for the United States of America, its territories and dependencies, any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be acquired by it, and will insofar as possible require its officers, agents and employees to agree to assign to itself for the United States of Amer-

ica, its territories and dependencies, any and all inventions within the "Licensed Field" which may be made by them or any of them.

SECOND. Glidden and Thermit hereby severally guarantee, promise and agree to and with National and Titanium and each of them that Zirconium will well and faithfully perform and fulfill everything in the above mentioned License Agreement on its part and behalf to be performed and fulfilled; and do hereby further severally agree, each for itself and its subsidiary corporations, that insofar as in their power lies they will on their part fully respect the above mentioned License Agreement between Titanium and Zirconium, and that so long as said License Agreement remains in force they will not against either of the parties thereto or against any licensee or successor in interest of either of them question or contest the validity of or infringe any of the Letters Patent covered by said License Agreement, nor afford any assistance to any one in questioning or contesting the validity thereof or in infringing the same, and will not do any other act in derogation of said License Agreement; and further will promptly communicate to Zirconium the results of any experience gained or knowledge acquired by them within the "Licensed Field" as defined in said License Agreement, and will promptly assign to Zirconium throughout the world any and all Letters Patent, inventions and improvements within the "Licensed Field" which may be acquired by them and will insofar as possible require their respective officers, agents and employees to agree to assign to themselves throughout the world any and all inventions within the "Licensed Field" which may be made by their said respective officers, agents and employees or any of them.

Exhibit H-2

THIRD. National shall not be liable upon its guarantee above set forth unless notice in writing of the failure on the part of Titanium to well and faithfully perform and fulfill said above mentioned license agreement for which it is to be held liable shall have been given to it within thirty days after knowledge of such default upon the part of Zirconium; and neither Glidden nor Thermit shall be held liable upon their several guarantees unless notice in writing of the failure on the part of Zirconium to well and faithfully perform and fulfill said above mentioned license agreement for which they are to be held liable shall have been given to them within thirty days after knowledge of such default upon the part of Titanium.

FOURTH. Glidden and Thermit severally agree that they will each pay to Titanium an amount equal to five per cent (5%) of all sums expended by Zirconium in defending any suit or suits for patent infringement brought by any licensee of Titanium against Zirconium within two years from the date of this agreement.

IN WITNESS WHEREOF the parties hereto have caused these presents to be duly executed by their respective officers thereunto duly authorized and their respective corporate seals to be hereunto affixed and duly attested, the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN

Vice President

[CORPORATE SEAL]

Attest:

M. D COLE

Secretary

Exhibit H-2

TITANIUM PIGMENT COMPANY, INC.

By

R. M. ROOSEVELT

[CORPORATE SEAL] *President*

Attest:

J. D. MEREDITH

Secretary

THE GLIDDEN COMPANY

By

ADRIAN D. JOYCE

[CORPORATE SEAL] *President*

Attest:

CLIFTON M. KOLB

Secretary

METAL & THERMIT CORPORATION

By

J. H. HIRSCHLAND

[CORPORATE SEAL] *President*

Attest:

HUBERT E. ROGERS

Secretary

AMERICAN ZIRCONIUM CORPORATION

By

ADRIAN D. JOYCE

[CORPORATE SEAL] *President*

Attest:

HUBERT E. ROGERS

Secretary

Exhibit I

THIS AGREEMENT, made as of the first day of January, 1935, by and between KREBS PIGMENT & COLOR CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "Krebs"), and AMERICAN ZIRCONIUM CORPORATION, a corporation organized under the laws of the State of Maryland (hereinafter referred to as "American"),

WITNESSETH:

WHEREAS, Krebs is engaged in the manufacture and sale of titanium dioxide (TiO_2) and related products, and is the owner of certain Letters Patent issued by the United States covering processes for the manufacture of titanium dioxide, all of which Letters Patent are described in Schedule "A", attached hereto and made a part hereof; and

WHEREAS American is engaged in the manufacture and sale of titanium dioxide and related products, and desires to obtain a license under the aforesaid Letters Patent of Krebs;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the parties hereto have agreed as follows:

Exhibit I

I.

(a) Krebs hereby grants to American a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell titanium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made wholly or partly under the license granted herein, shall not exceed in any calendar year during the continuance of this agreement the quantity specified for such year in the following table:

Year	*Quantity*
1935	3,000 tons
1936	3,000 "
1937	3,000 "
1938	6,000 "
1939	6,000 "
1940	6,000 "
1941	6,000 "
1942	6,000 "
1943	6,000 "
Each subsequent year	9,000 "

II.

(a) American shall pay to Krebs a royalty at the rate per pound specified in paragraph (b) of this Article, on the total quantity of all titanium dioxide produced by Amer-

ican during each calendar year throughout the period of this agreement, including the titanium dioxide content of all compounds, mixtures and other products.

(b) The amount of royalty payable by American as aforesaid on each and every pound of titanium dioxide produced by it shall be equal to two per cent. (2%) of the selling price per pound of titanium dioxide as contained in Krebs' published carload selling price to the general trade, in effect at the close of each quarterly period for which royalties are payable hereunder; provided, however, that the royalty so payable by American shall be not less than one-fourth of one cent (¼¢) per pound.

(c) Royalties on titanium dioxide produced by American during each calendar quarterly period shall be paid to Krebs, at its office in Wilmington, Delaware, within thirty (30) days after the end of such quarter; provided, however, that payment of royalties on titanium dioxide produced by American during the first six months of the current year shall be made concurrently with the payment for the third quarterly period of said year.

(d) American shall maintain suitable records showing the quantities of titanium dioxide produced by it during the period of this agreement, and the representatives of Krebs shall have the right to inspect such records at any time or times during business hours.

III.

If at any time during the life of this agreement Krebs should grant a license under any or all of the patents enumerated in Schedule "A" hereof, and should charge therefor a royalty lower in rate than the royalty terms herein set

forth, the royalty imposed hereunder shall be reduced to correspond to such lower rate so long as the latter is payable by any other licensee of Krebs. The provisions of this Article shall not be deemed to apply to the granting of any license by Krebs primarily for a consideration other than the payment of cash royalty by the licensee.

IV.

American admits the validity of each of the Letters Patent listed in Schedule "A" hereof, and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause, prior to its normal expiration, shall not affect the provisions of this Article or release or discharge American from the admission and estoppel herein set forth.

V.

American agrees that it will affix to the containers of all products made and sold by it under this license, such notices or markings as may be required by Krebs to designate the Letters Patent under which such products shall have been produced.

VI.

This agreement shall remain in full force and effect until the expiration of all the Letters Patent listed in Schedule "A" hereof; provided, however, that if American shall fail to perform any of the provisions to be performed by it hereunder, and shall fail to remedy such default within thirty (30) days after notice from Krebs specifying such default, Krebs may terminate this agreement at any time by so notifying American in writing; and provided further,

that American may terminate this agreement at any time after the expiration of ten (10) years from the date hereof, if the products then made by it and the methods of producing the same do not infringe the claims of any of the unexpired Letters Patent licensed hereunder, and if it makes available to Krebs all information evidential of such non-infringement. The termination or expiration of this agreement for any cause shall be without prejudice to the rights and remedies of Krebs for any royalties then accrued or earned hereunder, or for any antecedent breach hereof.

VII.

The rights and obligations under this agreement shall inure to and be binding upon Krebs, its successors and assigns but shall not be assigned or transferred by American without the written consent of Krebs.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto duly authorized and their corporate seals to be hereunto affixed, as of the day and year first above written.

KREBS PIGMENT & COLOR CORPORATION

By (s) Z. Phelps
Vice-President

Attest:
(Seal) (s) C. H. LIPMAN
Secretary

AMERICAN ZIRCONIUM CORPORATION

By (s) Adrian D. Joyce
President

Attest:
(Seal) (s) Clifton M. Kolb
Asst. Secretary

Exhibit I

STATE OF DELAWARE
COUNTY OF NEW CASTLE } ss.:

On this 19 day of August, 1935, before me, a Notary Public in and for the State and County aforesaid, personally came Z. Phelps, to me known, who being by me duly sworn did depose and say that he is Vice President of Krebs Pigment & Color Corporation, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

(s) H. L. Harris (Seal)
Notary Public

STATE OF OHIO
COUNTY OF CUYAHOGA } ss.:

On this 10 day of August, 1935, before me, a Notary Public in and for the State and County aforesaid, personally came Adrian D. Joyce, to me known, who being by me duly sworn did depose and say that he is President of American Zirconium Corporation, the corporation described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

(s) Charlotte M. Hieber (Seal)
Notary Public

Exhibit I

SCHEDULE "A"

Patent Number	Dated	Inventor	Entitled
1,357,690	11/2/20	Oscar T. Coffelt	"Processes for the recovery of Titanium from its ores."
1,489,183	4/1/24	Ch. Weizmann & J. Blumenfeld	"Production of Titanic Acid."
1,504,669	8/12/24	J. Blumenfeld	"Titanium Compound."
1,504,670	8/12/24	J. Blumenfeld	"Titanium Compound."
1,504,671	8/12/24	J. Blumenfeld	"Filtration of Solutions."
Re-17,429-(Orig. Patent (1,504,672-	(Re-issued (9-10-29 8/12/24	J. Blumenfeld	"Preparation of Titanium Hydroxide."
Re-17,430-(Orig. Patent (1,504,672	(Re-issued (9/10/29 8/12/24	J. Blumenfeld	"Preparation of Titanium Hydroxide."
Re-16,956-(Orig. Patent (1,504,673	(Re-issued (5/8/28 8/12/24	J. Blumenfeld	"Titanium Pigment."
1,633,621	6/28/27	J. Blumenfeld	"Filtration of Solutions, etc."
1,639,423	8/16/27	J. Blumenfeld	"Preparation of Pigments and Paints."
1,649,496	11/15/27	N. Specht	"Process for the manufacture of Titanic Oxide."
1,655,940	1/10/28	J. d'Ans & F. Sommer	"Process of preparing Titanic Oxide from Titanic Ores."
1,707,248	4/2/29	J. Blumenfeld	"Process for the manufacture of Titanium Oxide."
1,707,257	4/2/29	Ch. de Rohden	"Production of Titanium Tetrachloride."
1,750,287	3/11/30	N. Specht	"Process of producing Permanent Paints."
Re-18,790-(Orig. Patent (1,758,528-	(Re-issued (4/4/33 5/13/30	W. Mecklenburg	"Production of Titanium Dioxide."
1,766,592	6/24/30	J. Blumenfeld	"Production of Composite Pigments containing Titanium Dioxide."
Re-18,854-(Orig. Patent (1,795,467-	(Re-issued (5/30/33 3/10/31	J. Blumenfeld	"Production of Titanium Dioxide."
1,797,760	3/24/31	C. de Rohden	"Production of Titanium Compositions."

Exhibit I

Patent Number	Dated	Inventor	Entitled
1,827,691	10/13/31	N. Specht	"Process of Treating Ores of Titanium containing Chromium and Recovering the Sulfuric Acid."
1,832,666	11/17/31	N. Specht	"Process for the manufacture of a brown pigment containing titanium from sludge of titanium."
1,845,633	2/16/32	N. Specht.	"Process for the Purification of Impure Dioxide of Titanium containing in particular Chromium."
1,846,188	2/23/32	C. de Rohden	"The production of Titanium Pigments."
1,851,487	3/29/32	J. Blumenfeld	"Preparation of Titanium Hydroxide."
1,853,626	4/12/32	Karl Leuchs	"Process of manufacturing Titanium Oxide suitable for use as a Pigment."
1,864,504	6/21/32	W. J. O'Brien	"Composite Pigment."
1,885,187	11/1/32	C. de Rohden	"Production of Titanium Pigments."
1,885,921	11/1/32	G. Kubin	"Processes for Reducing the Oil Absorption of Titanium Dioxide Pigment."
1,885,934	11/1/32	M. Mayer	"The Art of Producing Oxides of the Fourth Group Metals."
1,892,693	1/3/33	J. Blumenfeld & M. Mayer	"Preparation of Titanium Pigments."
1,899,572	2/28/33	P. Kubelka	"Methods of Dissolving Titanium Tetrachloride in Aqueous Solvents."
1,899,573	2/28/33	P. Kubelka	"Process of Preparing Clear Solutions of Titanium Chloride."
1,899,574	2/28/33	P. Kubelka	"Process of Preparing Concentrated Clear Solutions of Titanium Chloride."
1,922,816	8/15/33	R. M. McKinney	"The Preparation of Stabilized Titanous Salt Solutions."
1,931,380	10/17/33	H. Haber and P. Kubelka	"Production of Titanium Dioxide from Titanium Tetrachloride."
1,931,381	10/17/33	H. Haber and P. Kubelka	"Production of Titanium Dioxide from Titanium Tetrachloride."
1,937,037	11/28/33	M. L. Hanahan	"Processes of making Titanium Oxide of Fine Texture."

Exhibit I-1

COPY

Assignment of Contract

AGREEMENT Made this 31st day of December, 1935, between KREBS PIGMENT & COLOR CORPORATION, a Delaware corporation (hereinafter called the "Assignor") and E. I. du PONT de NEMOURS AND COMPANY, a Delaware corporation (hereinafter called the "Assignee"):

The Assignor, for value received, hereby sells, assigns and transfers to the Assignee all the right, title and interest of the Assignor in, to or under the Agreement dated January 1, 1935 between AMERICAN ZIRCONIUM CORPORATION and the Assignor relating to non-exclusive license to American Zirconium Corporation under a list of patents covering the manufacture of titanium oxide.

The Assignee, in consideration of the premises, accepts the assignment aforesaid and hereby assumes and agrees to perform and discharge, to the complete exoneration of the Assignor, all the obligations on the part of the Assignor to be kept and performed under the provisions of said Agreement.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

KREBS PIGMENT & COLOR CORPORATION
(Assignor)

By: (s) Z. Phelps
Vice President

Attest:
(s) C. H. Lyman
Secretary

Exhibit I-1

E. I. du Pont de Nemours and Company
(Assignee)

By: (s) F. G. Tallman
Vice President

Attest:
(s) W. F. Raskob
Secretary

Exhibit J

Translated from German.
German Text attached.

POOL — AGREEMENT

between

Ste de Produits Chimiques des Terres Rares
Titan Company Inc.,
I. G. Farbenindustrie,
regarding the formation of a
Japanese Company.

Initialed Jan. 18th 1936,
by Dr. Jebsen
Mr. Blumenfeld
Mr. Borgwardt
Mr. Mayer-Wegelin.

Exhibit J

Translated from German.

by S. Glenshussen

The firms:

1. *Société de Produits Chimiques des Terres Rares, 67, rue de Prony, Paris.*

("Terres Rares").

2. *Titan Company Inc., 7 West 10th Street, Wilmington, Delaware, U. S. A.*

("Titaninc").

3. *I. G. Farbenindustrie Aktiengesellschaft, Frankfurt a.M.*

("I. G.").

hereinafter called "the parties to the agreement",—the latter through the Titangesellschaft m.b. H., Leverkusen,—have formed, with other titanium white manufacturers, an international convention, according to which the japanese market (incl. Manchuria) is reserved the three above mentioned firms. In this market Terres Rares participates with 30% and Titaninc and I. G. together (i. e. through Titangesellschaft m.b.H., Leverkusen) with 70%.

Terres Rares and Titaninc intend to erect, with the Japanese firm *Kokusan Kogyo, Kabushiki Kaisha, Kobe*, a titanium white factory in Japan by special agreements, in such a manner that the japanese firm participation with 50% and Terres Rares and Titaninc together with the remaining 50%. 20% of the capital to be taken over by Terres Rares and Titaninc shall be paid in cash, and 80% shall be covered by patents, licenses and experience. The

subdivision between Terres Rares and Titaninc will take place in the proportion of 30 for Terres Rares to 70 for Titaninc; for half of its share Titaninc shall grant an option to the I. G.

In order to ensure a unified action between the three parties to the agreement, towards the Japanese, the following "Pool-Agreement", also binding for possible legal successors, is made:

1.

Terres Rares and Titaninc jointly authorise the *Doitsu Senryo Gomei Kaisha, Kobe/Japan,* hereinafter called "Doitsu" to conclude in its own name but acting as trustee of Terres Rares and Titaninc, an agreement with Kokusan Kogyo for the formation of a company, in accordance with the principles of the attached draft B., and to subscribe and take over the participation-shares intended for Terres Rares and Titaninc.

The necessary funds will be placed at the disposal of Doitsu by Terres Rares and Titaninc in the proportion 30 : 70.

2.

By signing this agreement, Doitsu accepts to subscribe and take over the shares as a trustee, and binds itself to exercise its rights as shareholder in the new Japanese factory, only upon joint instructions from the parties to the agreement, which will be transmitted to it through the I. G.

The I. G. assumes the responsibility towards the other parties to the agreement for Doitsu's actions.

Exhibit J

3.

Titaninc grants the I. G. the following option: The I. G. is entitled, within 15 years from the beginning of the present agreement, regardless whether or not this agreement will continue to exist during this period, to purchase half of the shares in the new Japanese factory, acquired by Titaninc (through the intermediary of the Doitsu acting as a trustee), against payment of half of the cash dollar amount used for the purchase of all the shares by Titaninc —(resp. Doitsu as trustee of Titaninc). To this amount is to be added 5% interest, calculated according to banking practice, from the day of disbursement, as well as possible taxes, administrative expenses and similar paid in connection with the shares. From this amount are to be deducted dividends received in the meantime on the shares covered by the option. On dividends are equally 5% interest to be calculated in the same way according to banking practice.

Titaninc is obliged, in case the I. G. makes use of the above option, to transfer, against payment as above mentioned, half of its shares to the I. G. or to such party as determined and controlled by I. G., in such a manner that Titaninc instructs the Doitsu to administer in the future as a trustee, on behalf of the I. G., the above mentioned half of the shares purchased and administered as trustee for Titaninc. If the I. G. makes use of this option, it subjects itself, or, as the case may be, the third party as determined by it, to the stipulations of this pool agreement, i.e. also the shares of the I. G. (35% of the half of the capital of the new Japanese factory held by the three parties) will be administered by the Doitsu acting as a trustee, according to the present agreement.

Exhibit J

4.

The parties to the agreement form, with their shares or parts in the Japanese titanium white factory to be erected, a syndicate, the shares or parts of which shall vote and operate in the same way at the General Meetings of the Japanese company to be formed, as well as in all other respects as regards decisions concerning the operations of the company.

Any declarations to be issued by the syndicate and the parties to the agreement, to the Japanese party and the Japanese factory, are to be made exclusively through the I. G., which will forward them through the Doitsu.

5.

The shares or parts are to be deposited by Doitsu with a first class banking firm in Tokyo, Japan, which, if necessary, will take care of the registration for the General Meeting in accordance with the prevailing rules.

If necessary and especially upon invitation of one of the parties to the agreement, the parties shall meet for discussion regarding the united attitude to be taken at the General Meeting of the Japanese firm, provided such a discussion can not take place in writing. The resolutions unanimously arrived at during such a conference are binding for all the parties to the agreement.

6.

All the parties bind themselves (without prejudice to the rights of preemption in art. 7), if the case may be, to sell their shares in the Japanese factory, including possible additional shares resulting from increase in the capital, only in one lot and not separately, and further only when the purchaser binds himself to take over the shares of the

other parties, at their request simultaneously and on the same terms.

In all cases of sales of shares, the purchaser must be placed under the obligation to enter the agreement with all rights and obligations of his predecessor.

7.

If Titaninc intends to sell its share in the Japanese factory, the I. G. will have a preemption right on this share. The same applies in favour of Titaninc in case I. G. should have intentions to sell. If, in the first case the I. G. and/or in the second case Titaninc decline to make use of the right of preemption, this will become the privilege of Terres Rares.

If Terres Rares intend to sell their share in the Japanese factory, each of the two other parties shall have a right of preemption on one half of this share, or—if only one of them wishes to make use of his preemption right—on the whole share. Titaninc and I. G. can also exercise the right of preemption jointly.

The party who wishes to sell its share has to state this without delay by registered letter, subject to a penalty amounting to 50% of the nominal value of its share but at least U. S. A. $30,000.—, as soon as it gets in touch with an interested party, or with some intermediaries regarding the sale; this advice should be sent

a) in case Titaninc intends to sell its share to the I. G.;

b) in case the I. G. intends to sell its share to Titaninc;

c) in case Terres Rares intend to sell their share to Titaninc and I. G.

Re a) and b): Should Titaninc and/or I. G. decline to make use of the preemption right, Terres Rares shall be advised accordingly.

A further advice is to be sent by registered letter, similarly without delay, and subject to the same penalty, as soon as the one of the parties who intends to sell his share has claimed a determined amount for his share or has changed a claim previously made. A claim expressed in equivalents other than money is equal to a claim expressed in money. A similar advice is to be sent as soon as one of the parties receives from an outsider an offer regarding his share, and if the said party does not decline the offer within a delay of 6 weeks.

The preemption right of the remaining party or parties is to be exercised within a delay of 3 months from the advice foreseen in the foregoing paragraph regarding a complete and firm binding offer and which has been received by the respective party by registered letter. The preemption right implies that the party entitled to make use of the said right (should Terres Rares intend to sell, each party entitled to make use of the preemption right for ½ or both jointly) can purchase the share of the selling party—and the latter is obliged to transfer his share—at the same terms and conditions as those that were offered in a binding form by a third party.

It is not considered to be a sale or intention to sell in the above sense, if changes of ownership take place within the syndicate or by transfer to a concern-company without impairing the present contract, or through succession. By concern-company is to be understood a company in which the selling party participates with at least 50% or with which he has concluded an agreement involving a com-

munity of interests, which, according to contents and duration, is equivalent to an economic merger.

8.

As long as the option belonging to the I. G. is not made use of, Titaninc can only sell its shares if the purchaser assumes the option-obligation stipulated in article 4 as regards Titaninc.

9.

The present pool agreement is effective as long as any one of the parties to the agreement or any one of their legal successors possesses shares in the Japanese titanium white factory, either directly or indirectly.

Should the Japanese company to be formed, be dissolved, then the present pool agreement shall also be terminated on the day of the dissolution, it being understood that its provisions be applied during the liquidation stage of the Japanese company in the spirit of the contract.

10.

All disputes arising in connection with the present contract or regarding whether it is in force, shall be settled under the rules of conciliation and arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with these rules.

Exhibit J-1

Draft 17/1/36.

To be re-written and adapted in Japan in accordance with Japanese law and custom.

Contract to be in English

B.

AGREEMENT REGARDING THE FORMATION OF A JAPANESE COMPANY NAMED "TITAN KOGYO K. K."

between

Messrs. KOKUSAN KOGYO Kabushiki Kaisha, at TOKYO hereinafter referred to as "KOKUSAN KOGYO"

and

Messrs. DOITSU SENRYO GOMEI KAISHA, at KOBE/TOKYO, Japan—hereinafter referred to as "DOITSU"

DOITSU act under power of attorney in this agreement for:

TITAN COMPANY INC., 7 West 10th Street, Wilmington, Delaware, U. S. A.

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, Frankfurt a. M.

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, 67, rue de Prony, *Paris*.

1.

KOKUSAN KOGYO and DOITSU agree to form a company with the name of: TITAN KOGYO K. K. at TOKYO, hereinafter referred to as "TITAN KOGYO"

Exhibit J-1

2.

The purpose of the company is to be the production and sale of Chemical Products in general and Titanium Pigments in particular in the territories of Japan and its colonies, leased and mandated territories as at present constituted, as well as Manchoukuo as per the map attached to the Japan Manchoukuo Year Book 1935. (Photocopy of this map is attached to this contract.)

3.

The company shall be formed with a share capital of Yen 1.500.000.—consisting of 30.000 shares of Yen 50 each, half of which to be issued respectively to KOKUSAN KOGYO and DOITSU as follows:

15.000 shares shall be issued for cash to KOKUSAN KOGYO

3.000 shares shall be issued for cash to DOITSU

12.000 shares shall be issued credited as fully paid up to DOITSU as consideration for the transfer of the existing Japanese business and goodwill as well as the transfer of patents and processes.

At the start only two thirds or one million Yen of the capital are to be paid up of which 500.000.—Yen in cash by KOKUSAN KOGYO and 100.000.—Yen in cash by DOITSU. The remaining one third of the capital will be paid up when required that is 250.000.—Yen in cash by KOKUSAN KOGYO and 50.000.—Yen in cash by DOITSU.

Exhibit J-1

4.

KOKUSAN KOGYO shall not transfer or part with the possession of any of their shares or holdings, except with the written consent of DOITSU and the transferee shall agree to be bound by all the obligations hereof so far as they are binding on KOKUSAN KOGYO.

The firms represented by DOITSU as trustees are restricted by agreements between them as regards the transfer or sale of their shares or holdings in TITAN KOGYO.

5.

The business year shall be the calendar year.

The first business year commences on the date the company is registered in accordance with the Japanese laws and terminates on the 31st of December of the following year.

6.

The Board of TITAN KOGYO shall consist of an even number of Directors, half of which to be nominated by KOKUSAN KOGYO and the other half by DOITSU.

The Manager or Managers of the company shall be appointed and dismissed by the Board.

The company shall be legally represented by .....
..... (to be completed according to Japanese laws and custom).

7.

As regards General Meetings the following shall be provided:

a) Each share of Yen 50.—shall have a voting right of one vote.

b) A general Meeting shall be held in every year at such time and place as may be determined by the directors.

c) General Meetings are to be called by the Board of Directors with three weeks notice at the least, and must be called upon request of KOKUSAN KOGYO or DOITSU.

d) No business shall be transacted at any General Meeting unless a quorum is present when the Meeting proceeds to business. A quorum is present when 75% of the shares are represented. Resolutions can only be passed by a majority of 75% of the shares represented.

e) If a resolution cannot be passed because the conditions under d) are not fulfilled a second General Meeting shall be called, with at least four months notice. Such second Meeting can pass resolutions on the same subjects as the first Meeting by a simple majority of the shares represented.

8.

Subject to the provisions specified below, TITAN KOGYO cannot be dissolved until after the 31st of December of the year nineteen hundred and sixty.

A General Meeting to pass the necessary resolutions for dissolving the company shall be held forthwith after December 31st 1960, if notice has been given by registered mail, by one of the parties to the other party, at least twelve months before that date, to the effect that such dissolution is desired. If such notice has not been given, it can be given to be effective next time not before December 31st 1970 and so on only at the end of a ten years period.

The company may however be dissolved before the 31st December 1960, if the returns of the company show a loss

during each one of five consecutive business years after the manufacturing plants have been put into operation, and if one of the parties gives 6 months notice by registered mail on that account. Such notice to be given within 24 months after the returns of the 5th year have been established.

In both cases mentioned above the notice given is only valid if the party giving notice has offered twelve months before by registered mail to the other party, the right to purchase all its shares and holdings at a price to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any values of patents, trade marks or goodwill, and if the other party has not accepted such offer by registered mail within seven months from the date of receiving same.

In default of agreement the price shall be settled by an Expert to be nominated by the International Chamber of Commerce. The decision of the Expert shall be final and the expenses incurred shall be charged to each party with 50%.

Should the other party refuse to purchase the shares and holdings so offered and the party making the offer consequently have the right to require TITAN KOGYO to be voluntarily wonned up, then the refusing party shall use its voting power in TITAN KOGYO to put that company into voluntary liquidation.

9.

It shall be provided that if the company be dissolved, all patents, licenses, processes and secrets of manufacture in the hands of the company must be sold in toto but not otherwise and only together with its trade marks.

10.

All notifications on behalf of the company will be made exclusively in the.....

Exhibit J-2

Translated from German.

German Text attached.

GUARANTY CONTRACT

between

DOFASU, TITANINC, I.G., TITÄNGESELLSCHAFT
TERRES RARES and THANN

with

attached drafts
C., D., E., F.
1936.

Initialed, January 18th 1936, by:

Mr. Jebsen
Mr. Blumenfeld
Mr. Borgwardt
Mr. Mayer-Wegelin.

Exhibit J-2

Translated from German.

GUARANTY CONTRACT

between

DOITSU SENRYO GOMEI KAISHA, KOBE/JAPAN,
hereinafter referred to as "DOITSU"

TITAN COMPANY INC., 7 West 10th Street, WILMINGTON, DELAWARE, U.S.A.,
hereinafter referred to as "TITANINC".

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT, FRANKFURT a/M.,
hereinafter referred to as "I.G.".

TITANGESELLSCHAFT m.b.H., I.G. WERK-LEVERKUSEN a.Rh.,
hereinafter referred to as "TITANGESELLSCHAFT"

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, 67 RUE de Prony, PARIS,
hereinafter referred to as "TERRES RARES", and

FABRIQUES DE PRODUITS CHIMIQUES DE THANN ET DE MULHOUSE, THANN/ Haut Rhin,
hereinafter referred to as "THANN".

Terres Rares, Titaninc and I. G. have on..... entered into a "Pool-Agreement" regarding joint participation in a Titanium factory to be erected in Japan together with the Kokusan Kogyo Kabushiki Kaisha, Tokyo. In this Pool-Agreement Doitsu is, as trustee of the parties to

the contract, authorised to conclude an agreement with Kokusan Kogyo for the formation of a company. Terres Rares and Thann of the one part and Titaninc, I.G. and Titangesellschaft of the other part, have made contractual arrangements with regard to the grant of licences and sales rights for various territories amongst which Japan, its colonies, leased and mandated territories, as well as Manchoukuo. Terres Rares and Thann have made with Titaninc and Titangesellschaft contractual arrangements regarding sales in the Japanese market.

In order to closer determine the relations of the interested parties towards the Japanese enterprise, as well as with each other, and to give Doitsu's activity as trustee the necessary basis, the following agreement, binding also possible legal successors, is made for the protection of all the parties.

Definitions.

1) "Licensed Field"

The term "Licensed Field" wherever herein employed means and includes:

a) All methods, processes and apparatus in the field of manufacture of all Titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

b) All such Titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses.

2) "European-American Group".

By this designation is meant:

Titaninc
I.G.
Titangesellschaft
Terres Rares
and Thann.

3) "Titan Kogyo".

By this designation is meant the Japanese company, whether or not it is given another name.

4) "Territory of Titan Kogyo".

By this designation is meant:

Japan, its colonies, leased and mandated territories, as at present constituted, as well as Manchoukuo as per the map attached to the "Japan Manchoukuo Yearbook 1935" (Photocopy of this map is attached to this contract).

5) "Territory of Doitsu".

By this designation is meant: all countries outside the territory of Titan Kogyo.

6) "North America".

By this designation is meant the entire continent of that name including the United States, Canada, Newfoundland, Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to said continent and also the Philippine and Hawaian Islands.

Exhibit J-2

7) "Finished Article".

By this designation is meant any artificially produced article or mixture produced by the aid of any Titanium Pigment in such a manner that the product constitutes a cohesive inter-mixture of a Titanium Pigment with other materials as for instance paints, rubber, glass, etc.

1.

a) The European-American group refrain from granting any license under their rights within the scope of the Licensed Field to any firms in the territory of Titan Kogyo other than the Japanese company, Titan Kogyo, mentioned in the introduction.

b) Titaninc, I. G. and Titangesellschaft authorize Doitsu, as their representative, to enter into the attached License Agreement "D" with Titan Kogyo, and Doitsu shall see to it that this be done.

c) Terres Rares and Thann undertake to keep themselves free in such a way that they can at any time grant the Titan Kogyo through Doitsu, for the territory of Titan Kogyo, exclusive licenses on the patents, processes and experiences within the Licensed Field, which they have and shall have at their disposal in future as owners or licencees. The licence comprises the exclusive right for the exploitation of any invention, improvement and anything within the scope of the Licensed Field.

Terres Rares and Thann declared that no licences in the Licenced Field for the territory of Titan Kogyo exist at the time of the conclusion of the agreement.

Exhibit J-2

d) Titangesellschaft undertakes to transmit to Titan Kogyo through Doitsu the information as to technical experience as stipulated in the agreement, respectively to receive such from Titan Kogyo through Doitsu. The other firms of the European-American group shall send their information of technical nature, so far as they are bound to transmit same, to the Titangesellschaft, to be forwarded.

As no exchange of technical information takes place at present between Titaninc, I. G. and Titangesellschaft of the one part and Terres Rares and Thann of the other part, Terres Rares and Thann agree that they shall not be informed about the processes and experiences imparted by Titangesellschaft to Titan Kogyo. The same applies to the processes and improvements placed at the disposal of Titaninc, I. G. and Titangesellschaft by Titan Kogyo.

However, should there amongst these be inventions or should Titan Kogyo make inventions as regards the application of Titanium Pigments, which in no way are based on the experience of and information from Titangesellschaft and establish something new in principle, these inventions shall be placed at the disposal also of Terres Rares.

Terres Rares and Thann agree and the I. G. declares itself willing that the I. G. decide in a form binding for all parties concerned, whether such an invention is new and independent in the above sense. None of the parties shall be entitled to protest against this decision.

Exhibit J-2

Should Titan Kogyo acquire from a third party inventions within the Licensed Field or regarding the application of Titanium Pigments, such inventions shall be placed at the disposal also of Terres Rares, at selfcost.

e) Except to the extent provided for below, under (g), the European-American group undertake not to sell, without the consent of Titan Kogyo, as well as Doitsu, any products within the Licensed Field, either directly or indirectly, to the territory of Titan Kogyo, and, as far as possible to impose the same obligation on their customers and to this end take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

Doitsu shall see to it that Titan Kogyo and Kokusan Kogyo assume the same obligations as regards export of their products within the scope of the Licensed Field, to the territory of Doitsu. Such a sale can however be made through Doitsu (respectively, as far as North America, is concerned, through Titaninc), but only to one or more of the firms of the European-American group and only with the consent of all of these firms.

f) However, the customers of Titaninc, Titangesellschaft, Terres Rares and Thann, as well as their licensees and sublicensees, but not these companies themselves, shall have the right, without objection on the part of Titan Kogyo, to sell "Finished Articles" within the territory of Titan Kogyo and, on the other hand, the customers of Titan Kogyo, but not Titan Kogyo itself, shall have the right, with-

out objection on the part of the above mentioned firms, to sell "Finished Articles" in the territory of Doitsu, with the exception of North-America, to which shall be applied the provisions of the License Agreement "D", art. 2 b).

Although the free sale of substances and products characterised by the designation "Finished Article" is permitted for the customers, the companies shall watch that their customers do not compete in an undesirable way, that is:

1) The customers of Titaninc, Titangesellschaft, Terres Rares and Thann not in a way undesirable for Titan Kogyo;

2) The customers of Titan Kogyo not in a way undesirable for Titaninc, Titangesellschaft, Terres Rares and Thann.

If one of the companies ascertains competition of this kind from a customer of another company, the latter shall take the necessary steps to prevent the customers from continuing this competition.

It seems impossible to fix the particulars of the measures necessary to carry through this principle. The parties shall, however, from time to time meet for discussions regarding the conditions of the market and the steps to be taken.

Doitsu shall see to it that Titan Kogyu accepts these obligations.

g) It shall not be considered as a violation of the obligations under e) and i), if the European-American group continue to sell products within the Licensed

Field in the territory of Titan Kogyo, up to the day on which Doitsu, upon request of Titan Kogyo, informs the European-American group that Titan Kogyo is in a position to satisfy normal demands. To allow Titan Kogyo to take over the sales as soon as possible after the start of its production, the European-American group shall enter into no contracts with customers for the territory of Titan Kogyo for quantities exceeding the normal requirements for 3 months. When Titan Kogyo has given notice as to when it will be in a position to deliver, no contracts shall be entered into for deliveries after that date, and no deliveries exceeding the normal requirements up to that date shall be made. The European-American group shall, however, have the right to deliver the quantities on contracts entered into before receipt of this notice.

Doitsu shall see to it that Titan Kogyo accepts these provisions.

h) The firms of the European-American group assume the mutual obligation not to participate directly or indirectly in any enterprise competing or preparing to compete in the territory of Titan Kogyo by production or delivery of Products within the Licensed Field, or to assist such an enterprise in any way as regards its installations and/or operations and business organisation, by technical or commercial advice regarding products within the Licensed Field. Doitsu is authorised to bind the European-American group in this respect towards Titan Kogyo and shall see to it that Titan Kogyo assumes the same obligations throughout the world.

Exhibit J-2

i) The firms of the European-American group assume the mutual obligation to refrain from selling in the territory of Titan Kogyo any products within the Licensed Field and to cover their total requirements of such products, to be further treated in their own factories in the territory of Titan Kogyo, exclusively from Titan Kogyo. Doitsu is authorised to bind the European-American group in this respect towards the Titan Kogyo, and shall see to it that Titan Kogyo undertake to cover its total requirements of products within the Licensed Field, to be further treated in their own factories in the territory of Doitsu, from one or more of the firms of the European-American group or their licensees or sublicensees.

2.

In connection with the formation of Titan Kogyo, undertaken jointly with Kokusan Kogyo, Doitsu assumes the obligation to see to it that Kokusan Kogyo enter into the following obligations:

a) A license agreement as per attached Contract C;

b) Contracts for the purpose of satisfactory working conditions for Titan Kogyo in the spirit of and along the lines set forth in the annexed drafts: encl. E and F.

c) The processes passed on to Titan Kogyo by Kokusan Kogyo or invented or developed by Titan Kogyo shall be placed at the disposal of Doitsu free of charge by Titan Kogyo for use free of charge in the countries outside the territory of Titan Kogyo, such processes to be passed on by Doitsu to one or

more of the firms of the European-American group, as foreseen in art. 1.

d) *1.* Kokusan Kogyo undertakes, on its own behalf, as well as on behalf of all firms belonging to the Nippon Sangyo Concern, to refrain from any activities or participation in the manufacture of or trading in products within the Licensed Field, other than through Titan Kogyo, and to cover their total requirements of such products within the territory of Titan Kogyo, exclusively from this firm.

d) *2.* Kokusan Kogyo undertakes further, on its own behalf, as well as on behalf of all firms belonging to the Nippon Sangyo Concern, that if they should find some processes involving the use of products within the Licensed Field or have at their disposal such processes as owners or licensees, they shall, when using such processes, cover their requirements in such products within the countries belonging to the territory of Titan Kogyo, from the Titan Kogyo, and in all other countries from the firm or firms designated by Doitsu—unless Kokusan Kogyo can satisfy Doitsu that this is impracticable.

e) The obligations assumed by Kokusan Kogyo in this article, paragr. a) and d) are void if Kokusan Kogyo dispose of all their shares with the consent of Doitsu.

3.

The European-American group authorise Doitsu to act as their representative within the limits and in the spirit of the above mentioned obligations, contracts and principles,

and Doitsu in turn undertakes in its actions to keep closely within these limits and to follow the further instructions of the European-American group.

The I. G. assumes the responsibility towards the other parties hereto for the actions of Doitsu and its possible legal successors.

4.

The firms of the European-American group shall consider the obligations assumed by Doitsu as trustee, as their own—to the extent the firms have bound themselves in this contract—and shall compensate Doitsu for any damage resulting therefrom.

5.

Any communications from the European-American group in connection with the interpretation of the contract shall be despatched to Doitsu, to avoid any misunderstanding and disagreement, exclusively through the I.G., and Doitsu shall use the same way.

6.

As compensation for the efforts made and to be made by Doitsu and I.G., 10% of the profits of the European-American group, resulting from the participation in the Japanese Titanium factory, shall be allotted to Doitsu, this share to be deducted when the profit is paid out.

7.

The present agreement and all the obligations entered into by virtue of this agreement, shall remain in force as long as any one of the parties hereto or any one of their

legal successors holds shares in Titan Kogyo, either directly or indirectly. It is also binding upon their legal successors, as well as upon the purchasers of shares in case one or more of the other parties sell their shares or a part thereof.

8.

As Terres Rares do not participate in the License Agreement "D", neither directly nor indirectly, it is agreed that the provisions of the License Agreement D can only be applied in so far as compatible with the Guaranty-Contract and in so far as no special advantage arises therefrom for the parties to the License Agreement D, which is not provided for in the Guaranty Contract.

Any cases arising in this connection are to be examined in a loyal spirit.

9.

The obligations assumed by the parties hereto shall extend to all the firms depending upon or controlled by the parties, to the end that they cannot be avoided by the formation or aid of such firms.

10.

Differences of opinion as to the stipulations of this contract, which cannot be settled by means of direct negotiations between the parties, shall be settled under the rules of conciliation and arbitration of the International Chamber of Commerce, by one or more arbitrators appointed in accordance with these rules.

Exhibit J-3

Contract to be in English

C.

LICENCE CONTRACT

BETWEEN

Messrs. KOKUSAN KOGYO Kabushiki Kaisha at TOKYO/ Japan hereinafter referred to as "KOKUSAN KOGYO"

and

Messrs. TITAN KOGYO Kabushiki Kaisha, at TOKYO hereinafter referred to as "TITAN KOGYO"

the following agreement is made and entered into, binding the parties as well as their legal successors.

1.

TITAN KOGYO have this day made a contract with the DOITSU SENRYO GOMEI KAISHA of KOBE/TOKYO, by which the two companies agree to grant each other licences for the production of Titanium Pigments, at the terms described in detail in the contract "D". Referring to that contract, KOKUSAN KOGYO undertake to grant TITAN KOGYO exclusive licences within the scope of the "licensed field" as hereinafter defined under all patents, processes and subject matter available to KOKUSAN KOGYO now or later with the right for TITAN KOGYO to grant sublicences.

The term "licensed field" wherever herein employed means and includes

a) all methods, processes and apparatus in the field of manufacture of all titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined

state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

b) all such Titanium compounds and mixtures, which can be used as pigments, whether or not adapted for other uses.

2.

Whenever KOKUSAN KOGYO file an application for letters patent on an invention in the licensed field KOKUSAN KOGYO shall within two months from the date of filing send a copy thereof to TITAN KOGYO with information as to the countries in which KOKUSAN KOGYO will file an application on such invention.

TITAN KOGYO and their licensees or sublicensees shall be entitled to apply for patents in all other countries and KOKUSAN KOGYO will on request supply TITAN KOGYO with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

KOKUSAN KOGYO shall prosecute with all possible diligence and care, all patent applications which KOKUSAN KOGYO have announced will be filed by them and in the case of difficulties confer with TITAN KOGYO their licensees or sublicensees in the respective countries as instructed by TITAN KOGYO.

3.

KOKUSAN KOGYO undertake to make in due time all payments necessary to maintain and prolong the patents in the licensed field, unless TITAN KOGYO expressly renounce their claim on an exclusive license.

Exhibit J-3

4.

The expenses incurred by KOKUSAN KOGYO in obtaining, maintaining, prolonging or defending any patent in the "Licensed Field" in future will be refunded by TITAN KOGYO. TITAN KOGYO is, however, relieved of this obligation when the exclusive license is renounced by them or otherwise terminates in which case TITAN KOGYO shall be entitled to a non-exclusive license under the patents in question.

5.

KOKUSAN KOGYO agree that they will as far as possible require their officers, agents and employees to assign to them any and all inventions within the licensed field which may be made by them or any of them prior to the time fixed for the termination of the exclusive licenses and of any extension of such time.

6.

The exclusive licenses hereby granted shall last as long as KOKUSAN KOGYO continue to own shares in TITAN KOGYO in accordance with the contract made between KOKUSAN KOGYO and DOITSU. Should such ownership cease, TITAN KOGYO will receive a non-exclusive license in respect of all inventions, patents and patent applications of which KOKUSAN KOGYO are then the owner, such licenses being available to TITAN KOGYO as well as their licensees and sublicensees who have received or may subsequently receive a license from TITAN KOGYO.

Exhibit J-3

7.

TITAN KOGYO or any exclusive sublicensee under any patent hereunder shall be entitled at their own expense to take any legal steps for the protection of such patent and recover damages, penalties and profits for infringements of such patent and to receive for their own benefit any sums recovered by such steps. They are for such purposes entitled to use the name of KOKUSAN KOGYO as owners of the patents but this gives them no right to claim reimbursement from KOKUSAN KOGYO of the expenses incurred by the procedure. The party taking such steps shall, however, provide for KOKUSAN KOGYO satisfactory security against all expenses and liabilities which may result for KOKUSAN KOGYO from such proceedings.

KOKUSAN KOGYO shall be notified of such steps immediately and shall be entitled to intervene at their own expense in such litigation.

8.

TITAN KOGYO shall never directly or indirectly question or contest the validity of any patent under which it is licensed by KOKUSAN KOGYO nor use nor infringe the same except as licensed nor connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

KOKUSAN KOGYO assume the same obligations with regard to the patents of TITAN KOGYO and of the companies cooperating with TITAN KOGYO in the "Licensed Field".

9.

KOKUSAN KOGYO undertake that, in case they invent or have at their disposal as owners or licensees any process which involves the use of Titanium Pigments, they will

stipulate when granting licences in respect of such processes, that the Licensees shall cover their requirement of Titanium Pigments solely and exclusively from TITAN KOGYO or their licensees or sublicensees, or such other firms designated by DOITSU, unless KOKUSAN KOGYO satisfies DOITSU that such stipulation is impracticable.

10.

KOKUSAN KOGYO undertake to provide that the NIPPON SANGYO CONCERN undertake for itself and use all endeavours and take all measures in its power to ensure that its associated and affiliated companies shall respect this agreement as if they were parties to it and that they shall do nothing contrary to the interests of TITAN KOGYO and the companies cooperating with TITAN KOGYO in the "Licensed Field".

Exhibit J-4

Contract to be in English.

D.

LICENCE CONTRACT.

Between

Messrs. DOITSU SENRYO GOMEI KAISHA at KOBE/TOKYO, JAPAN,

hereinafter referred to as "DOITSU"

and

Messrs. TITAN KOGYO Kabushiki Kaisha at TOKKO

hereinafter referred to as "TITAN KOGYO"

the following agreement is made and entered into binding the parties as well as their legal successors and to the purpose of exploiting the processes for the production of Titanium Pigments available to either of the parties now or in future.

In this agreement DOITSU act as trustees of TITAN COMPANY INC., 7 West 10th Street, WILMINGTON, DELAWARE, U.S.A., I. G. FARBENINDUSTRIE AKTIEGESELLSCHAFT, FRANKFURT a/M., TITANGESELLSCHAFT m.b.H., I. G. WERK-LEVERKUSEN a.Rh., with which firms they have made corresponding arrangements and contracts.

1.

DEFINITION.

a) *"Licensed Field".*

The term "Licensed Field" wherever herein employed means and includes

1) all methods, processes and apparatus in the field of manufacture of all Titanium compounds, containing two per cent (2%) or more of the element Titanium in a chemically, mechanically or physically combined state and mixtures thereof, which can be used as pigments, whether or not adapted for other uses and

2) all such Titanium compounds and mixtures, which can be used as pigments whether or not adapted for other uses.

b) *"North America"*.

By this designation is meant the entire continent of that name including the United States, Canada, Newfoundland, Panama and all Central American States and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to said continent and also the Philippine and Hawaian Islands.

c) *"Territory of* TITAN KOGYO".

The term "Territory of TITAN KOGYO" wherever herein employed means and includes:

Japan, its colonies, leased and mandated territories, as at present constituted,

as well as Manchoukuo as per the map attached to the "Japan Manchoukuo Year Book 1935". (Photo-copy of this map is attached to this contract).

d) *"Territory of* DOITSU".

The term "Territory of DOITSU" wherever herein employed means and includes all countries outside the territory of TITAN KOGYO.

Exhibit J-4

e) *"Finished articles".*

By this designation is meant any artificially produced article or mixture produced by the aid of any Titanium Pigment in such a manner that the product constitutes a cohesive inter-mixture of a Titanum Pigment with other materials as for instance paints, rubber, glass, etc.

2.

a) The DOITSU agree to grant to TITAN KOGYO for the territory of TITAN KOGYO an exclusive licence in respect of all or any patents, processes and subject matter within the scope of the Licensed Field of which TITANINC., I.G. and/or TITANGESELLSCHAFT now is or may hereafter become entitled to grant for such territory an exclusive licence and a non-exclusive licence in respect of all or any patents, processes and subject matter within the scope of the Licensed Field as to which TITANINC now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive license solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of TITAN KOGYO to manufacture and/or use and/or sell the titanium compounds so produced, whenever TITANINC., I.G. and/or TITANGESELLSCHAFT has or is entitled to obtain power to confer such right subject always to the conditions contained in this agreement.

These licenses do not include the right for TITAN KOGYO to grant sublicenses.

b) No objection shall be made to customers of TITAN KOGYO selling "Finished Articles" in the territory of DOITSU but so that any such sales to North America shall

be kept within the limits specified below, and no such sales shall be made by TITAN KOGYO itself in the territory of DOITSU.

"Finished Articles" in the manufacture of which titanium products produced by TITAN KOGYO have been used as raw material may be imported to North America provided that the same does not constitute such an important part of such finished article that its sale substantially interferes with TITANINC's or TITANGESELLSCHAFT's or their licensee's or sublicensee's sale. TITAN KOGYO agree that upon receiving notice from DOITSU that such importation into North-America of such finished article does interfere with the sale of the products of the above mentioned parties, TITAN KOGYO will endeavour to prevent such importation. DOITSU agree that neither DOITSU nor any of the above mentioned parties will sue the TITAN KOGYO or any purchaser from, or customer of, direct or indirect of the TITAN KOGYO on account of the importation into or sale and use in North-America of any such finished article until after six months from the time such notice shall have been given to the TITAN KOGYO.

3.

a) TITAN KOGYO agree to grant to DOITSU for the territory of DOITSU an exclusive license in respect of all or any patents, processes and subject matter within the scope of the Licensed Field of which TITAN KOGYO now is or may hereafter become the beneficial owner or in respect of which TITAN KOGYO is or may hereafter become entitled to grant for such territory an exclusive license and a non-exclusive license in respect of all or any patents, processes and subject matter within the scope of the Licensed Field as to

which TITAN KOGYO now is or may hereafter become entitled to grant or is entitled to obtain the right to grant for such territory a non-exclusive license solely for the purpose of the production of titanium compounds within the Licensed Field with full rights throughout the territory of DOITSU to manufacture and/or use and/or sell titanium compounds so produced and with the right to grant sublicenses wherever TITAN KOGYO has or is entitled to obtain power to confer such right subject always to the conditions contained in this agreement.

b) No objection shall be made to customers of TITANINC., TITANGESELLSCHAFT or their licensees or sublicensees selling "Finished Articles" in the territory of TITAN KOGYO but no such sales shall be made by these companies themselves.

c) The exclusive as well as the non-exclusive licenses shall on the written request of DOITSU be granted direct to TITANGESELLSCHAFT or TITANINC or any of its licensees or sublicensees.

d) The TITAN KOGYO undertake that when granting a license in the territory of DOITSU, for a process involving the use of Titanium pigments, they will impose on the licensee the obligation to purchase all Titanium pigments required, solely and exclusively from TITANINC, I. G., TITANGESELLSCHAFT or their licensees or sublicensees in accordance with the instructions given by DOITSU on enquiry, unless in any particular case TITAN KOGYO satisfy DOITSU that such a stipulation is impracticable.

4.

Except to the extent provided for in the preceeding articles 2. and 3. hereof, or as may be otherwise specifically

agreed between the parties hereto, neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the territory of the other party any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

If DOITSU permit TITAN KOGYO to sell any products within the scope of the Licensed Field in or for the territory of DOITSU, TITAN KOGYO shall make such sales through DOITSU. DOITSU are from now on appointed sole agents of TITAN KOGYO for all countries outside the territory of TITAN KOGYO and remain such agents as long as TITAN KOGYO have the right to an exclusive license from DOITSU, their licensees or sublicensees with the exception of North America for which the TITANIUM PIGMENT CO. INC., 111 Broadway, NEW YORK CITY, shall be appointed exclusive agent.

The TITAN KOGYO shall on the request of DOITSU appoint the firms for which DOITSU is trustee—their licensees or sublicensees—sole agents for their respective licensed territories.

TITAN KOGYO shall only deal with these agents through DOITSU and possible sales shall be dependent upon the consent of DOITSU.

TITAN KOGYO are only obliged to execute such orders from DOITSU as TITAN KOGYO approve of. DOITSU can fix the prices and terms for resale at their own discretion.

If TITAN KOGYO permit DOITSU to sell any products within the scope of the Licensed Field within or for the territory of TITAN KOGYO, DOITSU shall effect such sales

only through TITAN KOGYO. TITAN KOGYO are from now on appointed sole agents of DOITSU for the territory of TITAN KOGYO and remain such agents as long as DOITSU have the right to exclusive licenses from TITAN KOGYO.

DOITSU are only obliged to execute such orders from TITAN KOGYO as DOITSU approve of. TITAN KOGYO can fix the prices and terms for resale at their own discretion.

Although articles 2. and 3. of this contract permit customers of DOITSU or of TITAN KOGYO to sell substances and products characterized by the designation "finished articles" without other restrictions than specified in article 2., the two companies shall watch carefully that their customers do not compete with either of the companies to an undesired extent within the territories reserved the company in question. If one of the companies ascertains competition of this kind from a customer of the other company, the latter shall take the necessary steps to prevent the customer from continuing the competition.

It seems impossible to fix the particulars of the measures necessary to carry through this principle and therefore the parties will from time to time meet for discussions regarding conditions of the market and the steps to be taken.

5.

a) TITAN KOGYO, whenever they file an application for Letters Patent on an invention in the Licensed Field shall within two months from the date of filing send a copy thereof to DOITSU with information as to the countries included in the territory of DOITSU in which TITAN KOGYO will file an application on such invention. TITAN INC., TITANGESELLSCHAFT and their licensees or sublicensees shall be entitled to apply for patents in all other countries

within their territory, and TITAN KOGYO will on request supply DOITSU with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

TITAN KOGYO shall prosecute with all possible diligence and care all patent applications which TITAN KOGYO have announced will be filed by them in the territory of DOITSU and in the case of difficulties confer with the licensee or sublicensee in the respective countries as instructed by DOITSU.

a 2) If TITAN KOGYO shall receive information as to the application by any other person, firm or company for letters patent in the Licensed Field in respect of which it shall be entitled to an exclusive license or to grant an exclusive license in the territory of DOITSU they shall with all possible diligence and care act to the purpose of providing DOITSU with the necessary information, papers and documents to enable TITANINC. and/or TITANGESELLSCHAFT and/or their licensees and/or their sublicensees to secure an exclusive license or applying for a letters patent in the countries within the territory of DOITSU and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

b 1) DOITSU agree that TITANINC., I. G. and TITANGESELLSCHAFT whenever they file an application for Letters Patent on an invention in the Licensed Field respectively shall within two months from the date of filing send a copy thereof to DOITSU (TITANINC. and TITANGESELLSCHAFT through I. G.) to be passed on to TITAN KOGYO with information as to the countries included in the territory of TITAN KOGYO in which they will file an application on such invention. TITAN KOGYO shall be entitled to apply for

patents in all other countries within their territory and TITANIC, I. G. and TITANGESELLSCHAFT respectively will on request supply TITAN KOGYO through DOITSU with all necessary papers and powers for that purpose and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

TITANINC., I. G. and TITANGESELLSCHAFT respectively shall prosecute with all possible diligence and care all patent applications which they have announced will be filed by them in the territory of TITAN KOGYO and in the case of difficulties confer with TITAN KOGYO.

b 2) If TITANINC., I. G. or TITANGESELLSCHAFT shall receive information as to the application by any other person, firm or company for Letters Patent in the Licensed Field in respect of which they shall be entitled to an exclusive license or to grant an exclusive license in the territory of TITAN KOGYO they shall with all possible diligence and care act to the purpose of providing TITAN KOGYO through the intermediary of DOITSU with the necessary information, papers and documents to enable TITAN KOGYO to secure an exclusive license or applying for a Letters Patent in the countries within the territory of KOGYO and so far as possible under the provisions of the International Convention for the Protection of Industrial Property.

c) Each party shall make punctually all payments necessary for the maintenance or prolongation of the patents owned or controlled by it, and with respect to which exclusive licenses are hereby granted or provided for.

With respect to patents of TITAN KOGYO in "North America" DOITSU shall be entitled to have the payment made by TITANINC. or their licensees in the name of TITAN KOGYO and to debit TITAN KOGYO for each payment.

TITAN KOGYO shall in due time inform DOITSU of the dates on which payment is due, to enable such payments to be made in a regular manner and without difficulty.

d) TITAN KOGYO as well as DOITSU (and the latter in the name of one or more of the firms represented by them) may relieve themselves of the obligation to pay any part of the expenses of obtaining, defending, maintaining or prolonging any Letters Patent or application for Letters Patent, with respect to which they possess an exclusive license by delivering to the other party owning or controlling the same a full and duly executed release of its exclusive license in which case the party so renouncing its right shall have a non-exclusive license in respect of the same.

e) Either party named under d) may relieve itself of the obligation to pay its share of the expenses of maintaining or defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favour of the other party is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full complete and duly executed assignment of all the right, title and interest of such party in and to the same.

f) Either party or any exclusive licensee or sublicensee under any patent hereunder shall be entitled at its own expense to take any legal steps for the protection of a patent with respect to which an exclusive license to such party is hereby granted or provided for and to recover damages, penalties and profits for infringements of such patent and to receive for its own benefit any sums recovered by such steps. They are for such purpose entitled to use the name of the owner of the patent, but this gives them no right to

claim reimbursement from the owner of the patent of the expenses incurred by the procedure. The party taking such steps shall, however, provide satisfactory security against all expenses and liabilities which may result for the owner of the patent from such proceedings.

The other party whether owner or licensee under the patent shall be notified of such step immediately and shall be entitled to intervene at its own expense in such litigation.

6.

Each party hereto agrees that it will cooperate with the other party by imparting semi-annually to the other party full and accurate information in detail as to knowledge obtained by it since the last report in and applicable to the Licensed Field.

7.

Each party hereto agrees that it will so far as possible require its officers agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time herein fixed for the termination of the exclusive licenses and of any extension of such time.

8.

The licenses herein provided for shall be granted and accepted and their continuance dependent upon the following conditions to be stated in every license agreement:

a) That the licensee shall never directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the license nor directly nor indirectly connive with or af-

ford any pecuniary or other assistance to a contestant or questioner of such validity.

b) TITAN KOGYO undertake to render to DOITSU on or before the last day of January and July of each year true and correct statements in writing as to their production in the Licensed Field during the preceding 6 months, the DOITSU to have the right to have these statements verified.

c) The future cost of maintaining or prolonging any Letters Patent with respect to which exclusive licenses are hereby granted or provided for, the future cost of defending suits brought to annul or cancel said Letters Patent or any of them and the future cost of obtaining Letters Patent as provided for in section a) of article 5. hereof shall be equally divided between DOITSU and TITAN KOGYO and the party making such payments shall be reimbursed by the other party for its share of the said payments within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

d) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licenses herein referred to and also all patents and the maintenance and enforcement of the same and the preperation filing and prosecution of applications for patents.

e) TITAN KOGYO assume the obligation not to participate directly or indirectly in competitive enterprises producing or delivering or preparing to produce or to deliver the products in the Licensed Field or to assist them in any way

whatever as regards their installations or operations, business organisations, etc., by technical or commercial advice or by preferential deliveries, grant of licenses, assignment of patents or in any other manner. TITAN KOGYO further undertake to keep all processes and subject matter within the scope of the Licensed Field secret as regards third parties. TITAN KOGYO will make stipulations to this effect in their contracts, etc., with their employees, workmen, etc., in as far as this is possible and legal.

f) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in article 2, 3, 4, 5a) and b), 6, 7 and in this article, the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made, the license hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be terminated by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of license shall operate to relieve the aggrieved party from its own obligations under this agreement nor terminate the licenses or sublicenses granted to it hereunder.

9.

Each party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavour to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

Exhibit J-4

10.

The exclusive license hereby granted or provided for shall remain in force for the longest period for which the respective parties have power to grant such licenses, provided however that such licenses shall terminate if and when DOITSU or their successors cease to be owners of shares in TITAN KOGYO in accordance with the Partnership Contract B. (copy of which is attached hereto), which was made between DOITSU and the KOKUSAN KOGYO K. K. TOKYO.

Should such ownership cease, each of the parties hereto shall receive a non-exclusive license for the longest term for which it is then possible to grant for their respective territories for all inventions, patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obtain the right to grant such license.

DOITSU shall be entitled to pass such licenses on to TITANINC., I. G. and TITANGESELLSCHAFT, and/or their present or future licensees or sublicensees.

All other obligations and rights under this agreement shall cease.

11.

TITAN KOGYO are entitled to transfer their rights in toto but not otherwise and only in connection with the transfer of their entire business to any person, firm, association or corporation which assumes the obligations of TITAN KOGYO, and this agreement in all respect shall be obligatory, not only upon each of the parties hereto respectively, but

also upon their respective assigns, successors and legal representatives.

12.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of either of such parties the control of which is held by either party hereto to the end that the terms of this agreement shall not be avoided by the existence or formation of affiliated or subsidiary companies.

Exhibit J-5

E.

Minutes for an agreement between Titan Kogyo and Kokusan Kogyo regarding supplies made and services rendered by Kokusan Kogyo to Titan Kogyo are to be made on the following principles:

1) Raw materials, energies, intermediary products and machinery manufactured or generated by Kokusan Kogyo themselves or any of their subsidiaries or affiliated companies or any other member of the Nippon Sangyo concern are to be supplied at self-cost price plus maximum 10%.

2) Raw materials, energies, intermediary products and machinery purchased by Kokusan Kogyo are to be supplied by Kokusan Kogyo to Titan Kogyo at purchase price without any additional charge.

3) Titan Kogyo are bound to cover their requirements of the above mentioned products and energies with Kokusan Kogyo unless purchases can be made at more favourable terms than those offered by Kokusan Kogyo.

4) With regard to services as for inst. rent for ground and buildings, repairs, water supply, transport charges, etc. terms are to be arranged on a reasonable basis.

Exhibit J-6

F.

Minutes for an agreement between TITAN KOGYO and the KOKUSAN KOGYO K. K. TOKYO, on the terms of agency.

If TITAN KOGYO do not desire to sell their products directly and wish to appoint KOKUSAN KOGYO their agents, an agreement including the following terms must be made:

1) Exact definition of the field of products and geographic territory for which KOKUSAN KOGYO are appointed agents,

2) Selling prices are fixed by TITAN KOGYO,

3) TITAN KOGYO grant KOKUSAN KOGYO 5% selling commission on their net proceeds,

4) Only the denominations, trade marks, brands, etc. of TITAN KOGYO may be used for the sales,

5) Reservation of proprietory rights reserved to TITAN KOGYO on all letters, papers, printed matters, and especially customers' indexes referring to the trade of TITAN KOGYO,

6) Reservation of the right to withdraw from the contract if KOKUSAN KOGYO neglect the sale of the products of TITAN KOGYO and DOITSU ask for the withdrawal.

7) Termination of the contract at the latest when KOKUSAN KOGYO surrender their shares in TITAN KOGYO or if TITAN KOGYO be liquidated.

Exhibit J-7

Translated from French.

Société de Produits Chimiques
des Terres Rares.
67 Rue de Prony

Paris, January 20th, 1936.

Titan Company Inc.
7 West 10th Street
Wilmington, Delaware.
U. S. A.

Dear Sirs,

Further to our last conversation, we beg to confirm that in the Pool Agreement and its appendices, as well as in the text of the Guaranty Contract, copies of which were exchanged January 18th 1936, we pointed out to you that by the designation "Société de Produits Chimiques des Terres Rares" we meant Société de Produits Chimiques des Terres Rares and Fabriques de Produits Chimiques de Thann et de Mulhouse, and that you were in agreement with this.

As arranged, we should be obliged if you would kindly confirm your approval.

Yours very truly,

(sign.) J. BLUMENFELD.

328-B

Exhibit J-8

Translated from French.

Paris, February 4th, 1936

Société de Produits Chimiques
des Terres Rares
67 Rue de Prony
Paris

Dear Sirs,

We thank you for your letter of January 20th and take pleasure in confirming our agreement.

Yours very truly,

Sig. G. JEBSEN
Vice President.

Copy to I. G. Farbenindustrie, Mr. Borgwardt
" " Titangesellschaft.

Exhibit K

THIS AGREEMENT made the 1st day of January 1937 Between CANADIAN INDUSTRIES LIMITED (hereinafter called "C-I-L"), a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, of the first part, and NATIONAL LEAD COMPANY (hereinafter called "National"), a corporation organized and existing under the laws of the State of New Jersey, U. S. A., and having an office at 111 Broadway, New York City, of the second part.

WHEREAS:—

(1) The parties hereto have agreed to co-operate in the manufacture and sale of titanium compounds, which expression whenever used in this Agreement means all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof but excluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

(2) National possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or titanium dioxide which products are manufactured on an important scale in accordance with such patent rights and processes in factories at Sayreville, New Jersey, and St. Louis, Missouri, U. S. A., and at Leverkusen, Germany, and Billingham, England.

(3) These patent rights were in part acquired and are exercised by National (as successor to its former subsidiary Titanium Pigment Company, Inc., a corporation of the State of Maine) under and in accordance with an agreement dated July 30, 1920, between the said Titanium Pigment Company, Inc., and Titan Co. A/S of Norway which provides for close co-operation between the parties thereto for the development of the industry and under which the interest of Titanium Pigment Company, Inc., has since been acquired and is now held by National and the interest of said Titan Co. A/S has since been assigned to and is now held by Titan Company Inc., U. S. A. (hereinafter called "Titaninc").

(4) The said Titaninc has also made agreements with I. G. Farbenindustrie and with Titangesellschaft m. b. H., of Germany, and with Imperial Chemical Industries Limited and others and with British Titan Products Company Limited, of England, with a view to co-operation and the exchange of technical and chemical experience for the development of the titanium industry.

(5) C-I-L possesses patent rights and processes for the production of titanium compounds and particularly for the production of various qualities of titanium white or titanium dioxide and has access to the technical information of E. I. duPont de Nemours and Company Inc., on such products for use in the Dominion of Canada and the Colony of Newfoundland.

(6) C-I-L has caused a Canadian Company to be formed under the name of Canadian Titanium Pigments Limited with a nominal capital of $50,000. This Company is a private Company and so far only six (6) shares of $100

each in the share capital of the Company have been issued. This Company is hereinafter called "Canadian Titanium".

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties hereto as follows:—

1. Canadian Titanium shall have the sole right of manufacture and sale of titanium compounds throughout the Dominion of Canada and the Colony of Newfoundland as at present constituted and both parties hereto will satisfy all their requirements for titanium compounds for consumption and/or for sale in the territory above defined by purchasing them from Canadian Titanium and will use all endeavors and take all measures in their power to ensure that their respective subsidiary and associated companies will satisfy their requirements for the said territory in like manner PROVIDED nevertheless that Canadian Titanium shall be able and willing at all times to supply such titanium compounds at competitive prices and of the qualities required.

2. National and Canadian Titanium shall forthwith enter into a License Agreement substantially in the form of the Draft Agreement set forth in the First Schedule hereto with such modifications therein if any as may be approved by both the parties t this Agreement and C-I-L shall forthwith enter into a License Agreement with Canadian Titanium substantially in the form of the Draft set forth in the Second Schedule hereto with such modifications therein if any as may be approved by both the parties to this agreement.

3. National shall forthwith enter into an Agreement with Canadian Titanium for the transfer to Canadian Titanium of the existing business and goodwill of National in titanium compounds in the Dominion of Canada and

Colony of Newfoundland, substantially in the form of the Draft Agreement set forth in the Third Schedule hereto with such modifications therein if any as may be approved by both the parties to this Agreement.

4. The authorized share capital of Canadian Titanium shall forthwith be increased to $1,300,000 consisting of:

(a) 5,000 "A" shares of $100 each of which 1,000 shall be subscribed in cash at par forthwith in the proportion of 49% by National and 51% by C-I-L, and further subscriptions by the parties hereto for such shares, as required from time to time, shall be made in the like proportions in cash at par up to the total authorized;

(b) 8,000 "B" shares of $100 each which shall be issued credited as fully paid up to National as consideration for the transfer by National to Canadian Titanium of the existing Canadian business and goodwill of National in titanium compounds and the carrying out by National of the obligations imposed on it by the Agreement contained in the Third Schedule hereto.

The "A" shares shall carry the following rights:

(1) The right, on a winding-up, to arrears of dividend and repayment of capital, after payment of the liabilities of the Company but in priority to arrears of dividend and repayment of capital of the "B" shares, and to receive the surplus assets remaining after payment in full of the arrears of dividend and capital of the "B" shares.

(2) The right to a fixed cumulative dividend of seven per cent (7%) per annum and arrears thereof in priority to the dividend and arrears of dividend on the "B" shares, and to the balance of the distributable profits remaining after payment of the dividend and arrears of dividend on the "B" shares.

(3) The right to one vote per share.

The "B" shares shall carry the following rights and be subject to the following restrictions:

(1) The right, on a winding-up, to arrears of dividend and repayment of capital, after payment of the liabilities of the Company and payment in full of the arrears of dividend and capital of the "A" shares.

(2) The right to a fixed cumulative dividend of six per cent (6%) per annum and arrears thereof ranking after the payment of the fixed cumulative dividend of seven per cent (7%) on the "A" shares and any arrears thereof.

(3) The right to one vote per share which, however, shall be exercisable only in relation to alteration of the rights attaching to the "B" shares or to the winding-up of the Company or to the sale of its business, or in the event of the fixed cumulative dividend on the "B" shares being in arrear on any date after 31st December 1938, or whenever the holders of the "B" shares are required by law to vote for the sanction of any by-law dealing with or directly affecting such shares.

(4) Such shares shall be redeemable at the option of the Company, either as a whole or from time to

time in lots of 1,000 shares or multiples thereof, on any dividend payment date after the first day of January 1942, at the amounts paid up on such shares, provided that the fixed cumulative dividend on all the "B" shares shall have been paid in full up to the date of any such redemption and provided that notice in writing of any such redemption shall have been given by the Company to the holders of the shares to be so redeemed at least thirty days prior to the date fixed for redemption, and provided further that upon any partial redemption the same proportion of the total number of shares held by each shareholder shall be redeemed as the total number of shares to be then redeemed bears to the total number of shares then outstanding.

It is agreed however between the parties hereto that for so long as the whole of the said "B" shares shall be held by National or any subsidiary company in which it owns the whole of the share capital, neither National nor any such subsidiary company will exercise until after 31st December 1940, the right to vote attaching to such shares in the event of the dividend thereon being in arrear.

5. The funds required for the ~~erection by~~ Canadian Titanium of a factory in Canada shall be provided by an issue of not exceeding $1,100,000 in par value of 30-year 7% Bonds which, as and when so required, shall be subscribed in cash ~~at~~ par in the proportions of 49% by National and 51% by C-I-L. Such bonds shall be redeemable at the option of Canadian Titanium on any interest payment date after 1st January 1942, at par and accrued interest, upon notification in writing having been given at least 30 days in

advance to the holders thereof, in lots aggregating an even $100,000 or multiple thereof and prorated among the holders thereof according to their respective holdings.

6. EXCEPT in so far as is otherwise herein provided, during the continuance of this Agreement no party hereto shall transfer or part with the possession of any of its shares or bonds in Canadian Titanium except with the written consent of the other party to this Agreement and any transferee of such shares shall agree to be bound by all the obligations hereof so far as they are binding on the transferor PROVIDED (1) that on any holder of "A" shares transferring or parting with the possession of the whole of its "A" shares the provisions of Clause 11 hereof shall bind such holder for a period of five years after the date of such transfer but otherwise such holder shall thereupon be released from all its obligations hereunder (2) that any party hereto shall be entitled to have any of its shares or bonds in Canadian Titanium allotted to or to transfer any of its said shares or bonds to any subsidiary Company in which it owns the whole of the share capital and any shares or bonds so held by any such subsidiary Company may be transferred to its parent company being a party hereto or to another subsidiary Company in which that party owns the whole of the share capital. Provided that the holding of any of such shares or bonds by any such subsidiary Company shall in no way relieve any party hereto from any of its obligations hereunder and Provided Also that if any such subsidiary Company shall cease to be wholly owned by its parent Company being a party hereto that party will procure the shares and bonds concerned to be transferred either to itself or to another subsidiary Com-

pany in which it owns the whole of the share capital and (3) that any party hereto shall be entitled to transfer to a nominee or nominees for the purpose only of qualifying such nominee or nominees as a Director or Directors of Canadian Titanium such shares in Canadian Titanium as shall be necessary for that purpose.

On any sale of "A" shares or bonds the same shall first be offered to the other holder or holders of "A" shares for refusal or acceptance within six months. If acceptances are received in respect of more shares or bonds than are offered the shares or bonds offered shall be transferred to the other accepting holders proportionately to their respective holdings.

7. The Board of Canadian Titanium shall consist of not more than six Directors of whom, as long as the percentage ownership of "A" shares by the parties hereto remains substantially as provided in Clause 4(a) hereof, National shall be entitled to nominate and from time to time to remove and replace three and C-I-L shall be entitled to nominate and from time to time to remove and replace three.

8. The President of Canadian Titanium shall be such one of the Directors nominated by C-I-L as may be agreed between the parties hereto.

9. The question of the erection of a factory in Canada by Canadian Titanium is to be left for the decision of the Board after full examination of the circumstances.

10. The requisite alterations in the By-Laws of Canadian Titanium shall be forthwith made to give effect to the provisions of this Agreement.

Exhibit K

11. During the continuance of this Agreement C-I-L agrees that it will not deal in or manufacture titanium compounds in any part of the world except through or at the request of Canadian Titanium and undertakes to use all endeavors and take all measures in its power to ensure that its subsidiary and associated companies shall observe the like restrictions, and National assumes the same obligation with respect to dealings or manufacture within the Dominion of Canada or the Colony of Newfoundland. It is understood that for the purposes of this Clause, E. I. duPont de Nemours and Company Inc. shall not be deemed to be an associated company of C-I-L.

12. Until Canadian Titanium shall have commenced itself to manufacture titanium compounds and as long thereafter as Canadian Titanium may require, National agrees itself to supply Canadian Titanium from the United States, at cost plus ten per cent (10%), and to use its best endeavors to enable Canadian Titanium to obtain from England through British Titan Products Company Limited, at cost plus ten per cent (10%), such quantities of titanium compounds as Canadian Titanium may require to satisfy the market demand therefor in the Dominion of Canada and the Colony of Newfoundland.

13. Subject to the provisions elsewhere contained in this Agreement and to the continued existence during that time of Canadian Titanium this Agreement shall remain in force for thirty years from the date hereof and shall continue from year to year thereafter unless terminated as hereinafter provided. If at or at any time after the expiration of that thirty year period either party or its successor or assign shall wish to retire from the provisions of this

Agreement it shall be entitled to do so provided it has previously given twelve months' notice in writing to that effect to the other party hereto. Either party so retiring shall offer to the other party for refusal or acceptance within 6 months the right to purchase the whole of the bonds and "A" shares in Canadian Titanium then held by or for account of the retiring party at a price for said bonds equal to the par value thereof and accrued interest and at a price for said "A" shares to be determined by mutual agreement and corresponding to the book value of the shares without taking into account any values of patents trade marks or goodwill and in default of agreement the price shall be settled by arbitration in accordance with the laws of the Province of Quebec relating to arbitration. Should the other party be unwilling to purchase the whole of the bonds and "A" shares so offered to it by the retiring party the retiring party shall have the right to require Canadian Titanium to be voluntarily wound up and in that event the other party shall use its voting power in Canadian Titanium to put that company into voluntary liquidation.

14. Should the Agreement of 1920 referred to in the third recital to this Agreement cease or determine for any cause beyond the control of National prior to the expiration of thirty years from the date of this Agreement, National shall forthwith notify Canadian Titanium of such termination and each party to this Agreement or its successor or assign shall have the right to retire from the provisions of this Agreement as of any date after the expiration of six calendar months from the effective date of termination of said Agreement of 1920 or from the date of receipt of notice thereof by Canadian Titanium as afore-

said, whichever date shall be the later, by giving to the other party six months prior notice in writing to that effect. Such retiring party shall have similar obligations to those contained in the last preceding Clause of this Agreement to offer to the remaining party for acceptance or refusal within six months the right to purchase the "A" shares and bonds in Canadian Titanium held by or for account of such retiring party and to require that Company to be wound up should the remaining party be unwilling to purchase the whole of the "A" shares and bonds so offered to it. Save as expressly provided by this Clause or by the preceding clause no party hereto shall without the consent of the other party hereto use its voting power in Canadian Titanium to put that Company into voluntary liquidation.

15. On either party exercising its option under Clauses 13 or 14 hereof the provisions of Clause 11 hereof shall bind it for a period of five years after the date when it ceases to be a shareholder unless Canadian Titanium is wound up in pursuance of either of the said Clauses 13 or 14.

16. Nothing herein contained shall be construed as giving to either party hereto the right to receive or to use or to disclose to its associates or to any other party any of the technical knowledge or experience which may be transmitted or disclosed by the other party to Canadian Titanium hereunder, except to the extent and in the manner provided in the license agreements between the respective parties hereto and Canadian Titanium contemplated by Clause 2 hereof.

Exhibit K

IN WITNESS WHEREOF the parties hereto have entered into these presents.

CANADIAN INDUSTRIES LIMITED
By G. W. HUGGETT
Vice-President

Attest:
RUSSELL SMITH
Secretary

NATIONAL LEAD COMPANY
By W. C. BESCHORMAN
Vice-President

Attest:
M. D. COLE
Secretary

THE SCHEDULES

FIRST SCHEDULE — Agreement to be made between National and Canadian Titanium for exclusive license for Canada and Newfoundland.

SECOND SCHEDULE—Agreement to be made between C-I-L and Canadian Titanium for exclusive license for the World.

THIRD SCHEDULE — Agreement between National and Canadian Titanium forming title to "B" shares in Canadian Titanium to be allotted to National for the consideration therein mentioned.

Exhibit K-1

AN AGREEMENT made the first day of January, 1937 Between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, U. S. A., and having an office at 111 Broadway in the City and State of New York (hereinafter referred to as "National" which expression includes its successors and permitted assigns) of the one part and CANADIAN TITANIUM PIGMENTS LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter referred to as "Canadian Titanium" which expression includes its successors and permitted assigns) of the other part.

WHEREBY IT IS AGREED AND DECLARED as follows:—

ARTICLE I.

In this Agreement the under-mentioned expressions shall have the meanings set opposite to them respectively as follows:—

(a) "Licensed Field" means and includes all methods, processes and apparatus in the field of the manufacture and use of all titanium compounds, as defined in the paragraph next following, and all such titanium compounds themselves.

(b) "Titanium compounds" means and includes all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof but ex-

cluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

(c) "North America" includes the entire continent of that name except the Dominion of Canada and Newfoundland and also includes Panama and all Central American States and all islands which were on the 30th July 1920 considered as being geographically appurtenant to the continent of North America and also the Philippine and Hawaiian Islands.

(d) "South America" similarly includes the entire continent of that name including all countries therein located to the South of Panama and also all islands which were on the 30th July 1920 considered as being geographically appurtenant to the said continent.

(e) "Finished Articles" means any artificially manufactured article or mixture which has been produced by the aid of any titanium compound within the Licensed Field in such a manner that the product constitutes a cohesive inter-mixture of such titanium compound with other materials as for instance paint, rubber, glass, etc.

(f) "Territory of Canadian Titanium" includes the whole of the Dominion of Canada and the Colony of Newfoundland as at present constituted.

(g) "Territory of National" includes all countries outside the Territory of Canadian Titanium.

(h) "Allied Companies" means all companies, firms and commercial or industrial enterprises (other than the parties hereto and licensees and sub-licensees of National, including their licensees and sub-licensees, for the territory of National outside of North America and South America)

which have received or shall receive a license of the nature referred to in Article XIV (a) of the Agreement of 1920 or in Article XIV hereof.

(i) "Agreement of 1920" means the Agreement dated 30th July 1920 between Titanium Pigment Company, Inc. and the Titan Co. A/S under which the interest of said Titanium Pigment Company, Inc. has since been acquired and is now held by National and the interest of said Titan Co. A/S has since been assigned to and is now held by Titan Company, Inc., U. S. A.

ARTICLE II.

National grants and agrees to grant to Canadian Titanium for the territory of Canadian Titanium an exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field of which National now is or may hereafter become the beneficial owner or in respect of which National now is or may hereafter become entitled to grant for such territory an exclusive license, and a non-exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field as to which National now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant for such territory a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sublicenses wherever National has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement.

Exhibit K-1

If National shall be permitted or requested to grant and shall grant a license in the territory of Canadian Titanium in respect of any process involving the use or application of a titanium compound the terms of such license shall be agreed upon by National and Canadian Titanium.

No objection shall be made to customers of Canadian Titanium or of its exclusive licensees or sub-licensees selling Finished Articles in the territory of National but so that any such sales to countries within such territory but outside of North America and South America shall be kept within the limits imposed by the Note to Article VI(c) of the Agreement of 1920, but no such sales shall be made by Canadian Titanium itself.

Any license or licenses to which Canadian Titanium shall be entitled under this Article shall on the written request of Canadian Titanium be granted direct to Allied Companies in respect of the whole or any part of Canadian Titanium's territory or in respect of all or any one or more of the patents or patent applications.

ARTICLE III.

Canadian Titanium grants and agrees to grant to National for the territory of National an exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field of which Canadian Titanium now is or may hereafter become the beneficial owner or in respect of which Canadian Titanium is or may hereafter become entitled to grant for such territory an exclusive license, and a non-exclusive license in respect of all or any patents, processes and subject-matter within the scope of the Licensed Field as to which Canadian Titanium now is or may hereafter become entitled to grant or is en-

titled to obtain the right to grant for such territory a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sub-licenses wherever Canadian Titanium has or is entitled to obtain power to confer such right subject always to the conditions contained in this Agreement. Provided, that in respect of any patent, process or subject-matter as to which an exclusive license is or shall be granted to National under this Article National shall grant to E. I. duPont de Nemours and Company, Inc., U.S.A. (hereinafter called "duPont"), whenever so requested by duPont, a corresponding non-exclusive sub-license for North America and South America, upon the condition, however, that duPont shall reimburse or agree to reimburse National for one-half of any expense incurred by National as provided in Article VI (d) hereof, with respect to Letters Patent covering the subject matter of such sub-license, but such sub-license shall not be subject to the conditions stipulated in Article XIV hereof.

If Canadian Titanium shall be permitted or requested to grant and shall grant a license in the Territory of National in respect of any process involving the use or application of a titanium compound the terms of such license shall be agreed upon by National and Canadian Titanium.

No objection shall be made to customers of National or of its exclusive licensees or sub-licensees selling Finished Articles in the territory of Canadian Titanium but no such sales shall be made by National itself. Provided, however (i) any sales within the territory of Canadian Titanium by customers of Titan Company, Inc., located within the territory of National but outside of North America are to

be kept within the limits imposed by the Note to Article VI (c) of the Agreement of 1920 and (ii) the Maritime Organization of the Titan Company A/S (which deals almost exclusively in supplying Scandinavian ships) shall be entitled to make any sales of paste and paint for ships in the territory of Canadian Titanium. National shall upon request inform Canadian Titanium as to sales made in the territory of Canadian Titanium by the said Maritime Organization and will provide any further information that may be necessary to enable Canadian Titanium to form an opinion as to the size of such business and sales, and if such business and sales to ships other than Scandinavian ships should become sufficiently important as to interfere substantially with Canadian Titanium's sales of its own titanium compounds within its territory National agrees on being satisfied of such interference to take all reasonable steps to bring about the limitation of such business and sales to dimensions which will cause no such interference.

Any license or licenses to which National shall be entitled under this Article shall on the written request of National be granted direct to Allied Companies in respect of the whole or any part of National's territory or in respect of all or any one or more of the patents or patent applications, subject always to the right of duPont to a sublicense as hereinbefore provided.

ARTICLE IV.

Except to the extent provided for in the preceding Articles II and III hereof or as may be otherwise specifically agreed between the parties hereto neither of the parties hereto shall without the consent of the other sell or knowingly permit to be sold within the territory of the other party

any of the products within the scope of the Licensed Field and to this end each of the parties hereto shall take all reasonable steps to ensure that this obligation shall be observed by their respective customers.

If either party should at any time permit the other party to sell within or for importation into the territory of the first party any products within the scope of the Licensed Field the following provisions shall have effect:—

(1) The party to whom such permission is granted (herein called "the Principal Party") shall make such sale or procure such sale to be made through the agency of the party granting such permission (herein referred to as "the Agent Party").

(2) Each party irrevocably appoints the other party its exclusive agent for the sale of the said products in the territory of such other party.

(3) Such appointment shall continue so long as the Principal Party has the right to an exclusive license from the Agent Party.

(4) In the case of the territory of National outside of North America and South America Canadian Titanium shall appoint Titan Company Inc. or a licensee of Titan Company Inc. to be designated by Titan Company Inc. its exclusive agent in accordanee with the provisions of Article VI (c) of the Agreement of 1920 but Canadian Titanium shall only deal with its agent through National and all sales to be made by such agent shall depend on the consent of National.

(5) The Principal Party on the written request of the Agent Party shall appoint as exclusive agent for any

part of the territory of the Agent Party an Allied Company which has received an exclusive license for the territory to which such appointment applies.

(6) The Agent Party may fix its own prices and conditions for the resale of any such products but the Principal Party shall not be obliged to effect sales against any orders of which it does not approve.

(7) Each party undertakes to endeavor to prevent its customers from competing with the other in that other's territory to its detriment in the sale of Finished Articles permitted under Articles II and III respectively. The measures to be taken for this purpose are to be discussed and agreed on from time to time.

ARTICLE V.

The parties hereto mutually agree with each other to observe and perform the following obligations, viz.:—

(a) 1. Either party, whenever it files an application for Letters Patent on an invention in the Licensed Field, shall within two months from the date of filing send a copy thereof to the other party with information as to the countries or places included in the territory of the other party in which such applicant party will file an application on such invention. The other party shall thereafter as soon as possible but not later than four months from the receipt of the copy of said application for patent cause the applicant party to be informed by suitable notice as to the country or countries included in its territory in which such other party its licensees and/or sub-licensees desire an exclusive license or licenses under said invention and request applications

for patent thereon to be filed. The applicant party must then file an application for patent on the invention in each of the countries so designated to it and prosecute the same with care and diligence to patent.

2. The applicant party has the right to file applications for patent in its own name in the territory of the other party before receiving any information from the other party as to the filing of such applications for patent as hereinbefore provided.

3. If either party hereto shall receive information as to the application by any other person, firm or company for Letters Patent in the Licensed Field in respect of which it shall be entitled to an exclusive license or to grant an exclusive license it shall forthwith pass on such information to the other party.

(b) Either party hereto may relieve itself of the obligations assumed by it under sub-clause (a) 1 hereof with respect to any or all of the countries designated by the other party by sending by registered mail to the other party within two months of the time of its receipt of said notice of designation from the other party a copy of the said application for patent on the invention with all papers necessary to permit the filing of an application in the country or countries within the territory of the other party with respect to which the applicant party desires to be relieved of said obligations, and so far as possible under the provisions of the International Convention for the protection of Industrial Property, and with the necessary papers for vesting the ownership thereof as distinguished from a license in such other party.

Exhibit K-1

(c) Each party hereto shall make all payments lawfully required to maintain and prolong the Letters Patent owned or controlled by it and with respect to which exclusive licenses are hereby granted or provided for, such payments to be ultimately borne as provided in Article VI (d) hereof.

(d) Either party hereto may relieve itself of its obligation to pay any part of the expenses of defending, maintaining or prolonging any Letters Patent or Application for Letters Patent with respect to which an exclusive license in favor of such party is at the time in force by delivering to the other party owning or controlling the same a full and duly executed Release of the exclusive license of such party thereunder in which case the party so renouncing its right shall have a non-exclusive license in respect of the same.

Where the owner or controller of a patent or patent application is as regards National an Allied Company the Release shall be sent to National and not to such owner or controller.

(e) Either party hereto may relieve itself of its obligation to pay its share of the expenses of defending any Letters Patent owned or controlled by it and with respect to which an exclusive license in favor of the other party is hereby granted or provided for by delivering to the other party (the exclusive licensee thereunder) a full complete and duly executed assignment of all the right title and interest of such party in and to the same.

(f) Either party hereto or any exclusive licensee or sub-licensee under any Patent hereunder shall be en-

titled at its own expense (but subject to the provisions of Article VI (d) in the case of the defence of any action brought to annul or cancel any Letters Patent) to institute and/or defend any actions regarding any patent in the Licensed Field in any territory with respect to which an exclusive license or sub-license to such party, licensee or sub-licensee is hereby granted or provided for and in particular to restrain or to recover damages, penalties or profits for infringement and to receive for its own benefit any sums recovered by such action using where necessary but under indemnity the name of the owner of the patent. The party taking such steps must before so doing provide satisfactory security to the owner of the patent for such indemnity. Notice shall be given by the party taking such steps to the owner or controller of the patent in question who may if it shall so elect enter at its own expense into such litigation and any damages recovered shall in such case be divided between the parties in such manner as they shall agree to be fair and equitable.

Article VI.

The licenses provided for in Articles II and III hereof shall be expressly stated or shall be deemed to be given and accepted and their continuance dependent upon the following conditions:—

(a) That the licensee shall neither directly nor indirectly question or contest the validity of any patent under which it is licensed or use or infringe the same beyond the limits of the license nor directly or indirectly connive with or afford any pecuniary or other assistance to a contestant or questioner of such validity.

(b) Canadian Titanium shall render to National half-yearly statements of production.

(c) The Licensee shall faithfully perform and observe the obligations of Article IV hereof so far as they are applicable to the Licensee.

(d) The future cost of paying taxes, fees and other periodical sums necessary for maintaining or prolonging any Letters Patent with respect to which an exclusive license is hereby granted or provided for shall be borne by the party in whose favor such exclusive license is currently in force, the future cost of defending suits brought to annul or cancel any such Letters Patent shall be divided between the parties hereto in such manner as they shall agree to be fair and equitable, and the future cost of obtaining Letters Patent as provided for in section (a) of Article V hereof shall be borne by the party at whose instance and request such Letters Patent were obtained. The party making any such payments for account of the other shall be reimbursed by the other party therefor within sixty days after the receipt by the other party of a verified statement of account evidenced by appropriate vouchers.

(e) Each party hereto shall at all times on request of the other duly and with all possible diligence execute and deliver to such other party all additional papers and documents and do and perform all other acts requisite and proper to fully effectuate all the provisions and obligations of this Agreement and particularly as regards all licenses herein referred to and also all patents and the maintenance and enforcement of the same and the

preparation, filing and prosecution of applications for patents.

(f) In the event of either of the parties hereto at any time violating or failing to perform any of the conditions contained in this Article VI the other party may by notice in writing duly despatched by registered post notify the delinquent party accordingly. Unless within six months after such despatch the delinquency has ceased and satisfaction has been made any license hereby granted to the delinquent party may at the option of the aggrieved party at any time thereafter be determined by notice sent by registered post to the delinquent party by the aggrieved party but no such termination of licenses shall operate to relieve the aggrieved party from its own obligations under this Agreement nor terminate any license or sub-license granted to it hereunder.

(g) Canadian Titanium as receiver of the sub-licenses from the Titan Company, Inc., assumes all the obligations of Article XIV (a) of the Agreement of 1920 (except sub-section 1 which is to be substituted by a clause similar in all respects to Clause VI (b) hereof so far as refers to statements of production and sub-section 3 which is to be substituted by clauses similar in all respects to Clauses V (a) and (b) hereof) and as regards such sub-licenses where such obligations differ from those hereunder the obligations under the said Article XIV (a) (with the above exceptions) shall prevail.

Article VII.

Each party hereto agrees that it will co-operate with the other party by imparting semi-annually to the other party

Exhibit K-1

full and accurate information in detail as to knowledge obtained by it with the right of disposal since the last report in and applicable to the Licensed Field and will permit the other party by its duly accredited representatives during business hours to inspect, study and enquire into any of its plants where work in the Licensed Field is being done exclusive of its research laboratories provided that neither party shall be obliged to accord such permission to any person who is not at the time bound in writing under his signature to assign all his inventions pursuant to the provisions of the following Article VIII.

ARTICLE VIII.

Each party hereto agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time herein fixed for the termination of the licenses granted or provided for by Articles II and III hereof and to any extension of such time.

ARTICLE IX.

Each party hereto agrees that in acquiring rights to inventions within the Licensed Field it will so far as possible endeavor to provide that such rights shall extend to all countries or places within the territory with respect to which any license to the other party hereunder is hereby granted or provided for.

ARTICLE X.

(a) The licenses granted or provided for by Articles II and III hereof shall remain in force for the longest period

for which the respective parties have power to grant such licenses provided however that such licenses shall terminate if and when National or its successors and/or its subsidiary Companies shall cease to own any shares of Canadian Titanium. Should such ownership cease each of the parties hereto shall receive a non-exclusive license (for itself as well as for all licensees and sub-licensees who have received or may receive a license for use within the parties' respective territories) for the longest term which it is then possible to grant for their respective territories for all inventions, patents and patent applications within the Licensed Field which the other party at the date of termination owns or in respect of which it is then entitled to grant or is entitled to obain the right to grant such license. All other rights, obligations and liabilities under this Agreement shall cease.

(b) If any agreement between one of the parties hereto and one of the Allied Companies should terminate such party has the right to determine the licenses which the parties hereto or either of them have received from such Allied Company. In case such licenses are not executed by the party hereto which was party to the Agreement with the Allied Company, the other party hereto and the Allied Company in question shall have the right and the obligation mutually to grant non-exclusive licenses in manner provided in paragraph (a) above. Mutual rights and obligations remain otherwise as agreed in this Agreement.

(c) Should the Agreement of 1920 and exclusive licenses received or granted under that Agreement terminate before the termination of this present Agreement Canadian Titanium has the right only to non-exclusive licenses so far as they result from the Agreement of 1920 and Canadian Titanium shall if National so requires determine any exclusive

licenses granted to the Titan Company Inc. by Canadian Titanium and substitute them by non-exclusive licenses in accordance with Article X of the 1920 Agreement and give to National the right to a corresponding license or licenses which shall be exclusive of all others except the Titan Company Inc. and its sub-licensees, subject always, however, to the right of duPont to a sub-license as hereinbefore provided.

The termination of the Agreement of 1920 shall not affect the mutual rights and obligations of National and Canadian Titanium regarding the exclusive exploitation of their patents and inventions until the termination of the present Agreement.

ARTICLE XI.

The option contained in Clause XI of the Agreement of 1920 having lapsed South America is open to both National and Titan Company, Inc., under the terms of the 1920 Agreement.

ARTICLE XII.

The interest of either party hereto may be assigned in toto but not otherwise and only in connection with the transfer of the entire business of such party within the Licensed Field to any person, firm, association or corporation which assumes the obligations of such party and this Agreement in all respects shall be obligatory not only upon each of the parties hereto respectively but also upon their respective assigns, successors and legal representatives.

ARTICLE XIII.

It is understood and agreed that the obligations assumed by each of the parties hereto shall extend to any and all subsidiaries of each such party the control of which is held

by such party to the end that the terms of this Agreement shall not be avoided by the existence or formation of subsidiary companies.

ARTICLE XIV.

Either party hereto shall have the right so long as any exclusive licenses hereunder shall be in force and shall not have been terminated by forfeiture, to grant sub-licenses hereunder but neither party hereto shall grant any license under its own patents or any sub-license hereunder in the Licensed Field except for the production of titanium compounds or for the utilization of such compounds produced by one of the parties hereto or a licensee or a sub-licensee of one of the parties. If any such license or sub-license is for the production of titanium compounds or for the manufacture therefrom of any product definable by the term "pigment" and as such utilizable in the composition of any commodity then every such license or sub-license shall be in writing and shall on the face thereof be expressly stated to be given and accepted and its continuance to be dependent upon the following express conditions which shall be binding on the licensee or sub-licensee as the case may be.

(a) To render to its licensor on or before the last day of January and July of each year true and correct statements in writing as to its production in the Licensed Field during the six months preceding the month in which such return is made. The licensor shall have the right to have such statements verified either by oath or by some accountant appointed by the licensor as the licensee shall prefer.

(b) To assume towards its licensor in respect of its (the licensee's or sub-licensee's) inventions and patents in

the Licensed Field the same obligations as are assumed by the licensor under Articles II and III of this Agreement.

(c) To assume towards its licensor the same obligations regarding its patents and inventions as are assumed by the parties hereto towards each other under Article V (a) and (b) of this Agreement.

(d) To assume upon itself the obligations of Article VI (a) hereof.

(e) To appoint as its sole agent in the territory of such party in accordance with the conditions set forth in Article IV hereof its licensor or some nominee of its licensor.

(f) To agree to assume in respect of its licensor the obligations assumed by its licensor in respect of the other party hereto in Article VII hereof and also to assume similar obligations to those assumed by its licensor under Article VIII hereof.

(g) That if the licensee or sub-licensee violates or neglects performance of any of the conditions above recited to be assumed by it the licensor may by registered mail thereto duly addressed notify the licensee or sub-licensee accordingly and that unless within six months after such mailing of such said notice the delinquency has ceased and satisfaction therefor been made, then and in that event the licensor may at its option terminate the license or sub-license by notice to that effect sent by registered mail to the licensee or sub-licensee.

Each of the parties hereto agrees that it will whenever it grants a license or sub-license in the Licensed Field or cancels the same or is notified of any breach thereof promptly notify the other party hereto giving him the name

and address of the licensee or sub-licensee and information as to the character, scope and duration of the license or sub-license.

ARTICLE XV.

It is intended that the mark "Titanox" for use in the territory of Canadian Titanium shall be assigned to it or otherwise made available for its exclusive use in such manner as the parties shall agree upon as most effective for the purpose. Canadian Titanium will use this mark only for qualities which are equal to or better than the quality upon which said mark is now used by National.

ARTICLE XVI.

Where any patent is registered in the name of Titan Co. A/S or Titan Company Inc. or Titanium Pigment Company, Inc. National will procure that any license thereof to be granted hereunder to Canadian Titanium shall be executed by such registered owner or alternatively shall cause the patent to be registered in its name before any license thereof is executed.

ARTICLE XVII.

All notices to National may be sent by registered post addressed to it at its said principal office in New York City. All notices to Canadian Titanium may be sent by registered post addressed to it at its head office. Either party may, at any time or from time to time by notice in writing substitute a new address in lieu of this address above set forth.

ARTICLE XVIII.

This Agreement shall be construed according to the Law of the Dominion of Canada.

Exhibit K-1

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN
Vice-President

Attest:

M. D. COLE
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:

RUSSELL SMITH
Secretary

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Exhibit K-2

AN AGREEMENT made the 1st day of January 1937 Between CANADIAN INDUSTRIES LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter called "C-I-L") of the one part and CANADIAN TITANIUM PIGMENTS LIMITED, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec, (hereinafter called "Canadian Titanium") of the other part.

WHEREBY IT IS AGREED by and between the parties hereto as follows:—

1. C-I-L grants and agrees to grant to Canadian Titanium an exclusive license throughout the world in respect of all and any patents, processes and subject matter within the scope of the Licensed Field as hereinafter defined of which C-I-L now is or may hereafter become the beneficial owner or in respect of which C-I-L now is or may hereafter become entitled to grant an exclusive license, and a like non-exclusive license in respect of all and any patents, processes and subject matter within the scope of the Licensed Field as to which C-I-L now is or may hereafter become entitled to grant or may be entitled to obtain the right to grant a non-exclusive license, for the production of titanium compounds within the Licensed Field and for the sale and/or utilization of titanium compounds so produced, and with the right to grant sub-licenses wherever C-I-L has or is entitled to obtain power to confer such right subject always

to the conditions contained in this Agreement. Provided that in respect of any patent, process or subject matter now or hereafter owned by C-I-L and as to which an exclusive license is or shall be granted to Canadian Titanium under this Article, Canadian Titanium shall grant to E. I. duPont de Nemours and Company, Inc., U.S.A., (hereinafter called "duPont"), whenever so requested by duPont, a corresponding non-exclusive sub-license for any part of North America except the Dominion of Canada and the Colony of Newfoundland and of South America, upon the condition, however, that duPont shall reimburse or agree to reimburse Canadian Titanium for one-half of any expense incurred by Canadian Titanium under Clause 4 hereof with respect to Letters Patent covering the subject matter of such sub-license, but such sub-license shall not be subject to the conditions stipulated in Article XIV of that license agreement of even date herewith entered into between Canadian Titanium and National Lead Company.

The term "Licensed Field" herein means and includes all methods, processes and apparatus in the field of the manufacture and use of all titanium compounds, as defined in the paragraph next following, and all such titanium compounds themselves.

The term "titanium compounds" herein means and includes all forms of the element titanium and all substances, materials and compositions containing two per cent (2%) or more of that element in a chemically, mechanically or physically combined state (including simples mixtures thereof but excluding titanated lithopones and titanium tetrachloride), which can be used as pigments, whether or not adapted for other uses.

Exhibit K-2

2. WHENEVER C-I-L files an application for Letters Patent on an invention in the Licensed Field C-I-L shall within two months from the date of filing send a copy thereof to Canadian Titanium. Canadian Titanium shall thereafter as soon as possible but not later than four months from the receipt of the copy of the said application inform C-I-L whether or not Canadian Titanium desires an exclusive license for said invention and if so in what country or countries. C-I-L shall then file an application for patent on the said invention in any country or countries so designated and prosecute the same with care and diligence until the requisite patents are obtained and C-I-L may also if it thinks fit file such an application without waiting for the reply of Canadian Titanium. As regards any such invention or any country or countries with respect to which Canadian Titanium shall not have informed C-I-L of its desire for an exclusive license as aforesaid C-I-L shall be entitled to take out a patent or patents for its own benefit.

3. C-I-L shall be charged with the duty of making all payments lawfully required to maintain and prolong any Letters Patent in the Licensed Field belonging to or controlled by it but only so long as Canadian Titanium continues to hold an exclusive license in respect thereof, provided that C-I-L shall before ceasing to make any such payments give notice to Canadian Titanium that it intends so to do and if Canadian Titanium desires to keep such Letters Patent alive for its own benefit it shall have the right to acquire the same and make such payments itself and C-I-L shall at the expense and cost of Canadian Titanium execute and do such documents, acts and things as may be necessary or requisite for that purpose.

Exhibit K-2

4. The expenses hereafter involved in obtaining, maintaining or defending any Letters Patent in the Licensed Field belonging to or controlled by C-I-L and paid by it shall be reimbursed to C-I-L by Canadian Titanium so long as Canadian Titanium desires to retain an exclusive license under such patent. Canadian Titanium is relieved of this obligation, as to expenses thereafter incurred, when the exclusive license is renounced by it or otherwise terminates in which case Canadian Titanium shall be entitled to a non-exclusive license.

5. C-I-L agrees that it will so far as possible require its officers, agents and employees to agree to assign to it throughout the world any and all inventions within the Licensed Field which may be made by them or any of them prior to the time hereby fixed for the termination of the exclusive license hereby granted.

6. The licenses hereby granted or provided for shall last as long as C-I-L or any of its subsidiary Companies continues to own any shares in Canadian Titanium. Should such ownership cease so that neither C-I-L nor any of its subsidiary Companies own any shares in Canadian Titanium, then Canadian Titanium shall be entitled at once to receive (for itself and for all licensees and sub-licensees who have received or may subsequently receive a license from Canadian Titanium) a non-exclusive license in respect of all or any of the said patents and processes of which C-I-L is then the beneficial owner or in respect of which C-I-L is then entitled to grant a non-exclusive license.

7. Canadian Titanium or any exclusive sub-licensee of any of its rights in respect of the said patents and processes

shall be entitled at its own expense to bring suit to restrain and to recover damages and penalties and profits for infringement of a patent in the Licensed Field, in respect of which it holds or is entitled to receive an exclusive license or sub-license, and to receive for its own benefit any sums recovered by any such suit using if necessary but under indemnify the name of C-I-L. C-I-L shall be notified of any such suit immediately upon its institution and shall be entitled if it shall so elect to intervene at its own expense in any such litigation and to be reimbursed for its expenses therein, ratably with the party instituting such suit, out of any sums recovered thereby. The party instituting any such suit shall first give a satisfactory security to C-I-L against any expense or liability on the part of C-I-L resulting from such proceedings.

8. (a) Canadian Titanium shall never directly or indirectly question or contest the validity of any patent under which it is licensed in pursuance of this Agreement nor use nor infringe the same except as licensed nor directly nor indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

(b) C-I-L shall never directly or indirectly question or contest the validity of any patent of Canadian Titanium or of the companies co-operating with Canadian Titanium in any part of the world in the Licensed Field nor infringe the same nor directly or indirectly connive with or afford any pecuniary or other assistance to any contestant or questioner of such validity.

9. C-I-L undertakes to use all endeavors and take all measures in its power to ensure that its subsidiary and as-

sociated companies shall respect this Agreement as if they were parties to it and that they shall do nothing contrary to the interests in the Licensed Field of Canadian Titanium or its sub-licensees. It is understood that for the purposes of this Clause, duPont shall not be deemed to be an associated Company of C-I-L.

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

CANADIAN INDUSTRIES LIMITED

By

G. W. HUGGETT
Vice-President

Attest:

RUSSELL SMITH
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:

RUSSELL SMITH
Secretary

Exhibit K-3

AN AGREEMENT dated the 1st day of January 1937 Between NATIONAL LEAD COMPANY, a corporation organized and existing under the Laws of the State of New Jersey U. S. A. and having an office at 111 Broadway New York City U. S. A. (hereinafter referred to as "National") of the one part and CANADIAN TITANIUM PIGMENTS LIMITED a corporation organized and existing under the Laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec (hereinafter referred to as "Canadian Titanium") of the other part.

WHEREAS it is provided in that certain agreement of even date herewith between National and Canadian Industries Limited that the authorized share capital of Canadian Titanium shall be $1,300,000 divided into 5,000 "A" shares of $100 each and 8,000 redeemable "B" shares of $100 each, carrying respectively the dividends and rights which are fully set forth in such agreement and with all of which the parties hereto are fully familiar.

NOW IT IS HEREBY AGREED AND DECLARED as follows:—

1. National shall transfer to Canadian Titanium as at opening of business January 2, 1937, by appropriate Bill of Sale or other instrument, the existing business and goodwill of National in titanium compounds (as defined in that certain separate Agreement between the parties hereto of even date herewith providing for the reciprocal grant of licenses under patents and patent rights) in the Dominion

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of Canada and the Colony of Newfoundland, including trade marks, unfulfilled contracts and marketing facilities.

2. National also agrees to give and make available to Canadian Titanium all technical knowledge and experience at its disposal in the manufacture of such titanium compounds or relating to the marketing thereof in the Dominion of Canada and the Colony of Newfoundland.

3. In consideration of the foregoing Canadian Titanium agrees to allot to National 8,000 redeemable "B" shares of $100 each of Canadian Titanium credited as fully-paid and numbered 1 to 8000 inclusive.

IN WITNESS WHEREOF the parties hereto have duly executed these presents the day and year first above written.

NATIONAL LEAD COMPANY

By

W. C. BESCHORMAN
Vice-President

Attest:—

M. D. COLE
Secretary

CANADIAN TITANIUM PIGMENTS LIMITED

By

L. W. HASLETT
President

Attest:—

RUSSELL SMITH
Secretary

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Exhibit K-4

THIS AGREEMENT made in duplicate as of the fourth day of December, 1937.

BETWEEN: B. LAPORTE LIMITED, a corporation organized under the laws of England and having its head office in the Borough of Luton, County of Bedford hereafter called "Laporte"

of the First Part,

CANADIAN TITANIUM PIGMENTS LIMITED a corporation of the Dominjon of Canada, havings its head office in the City of Montreal, Province of Quebec, hereafter called "Canadian Titanium"

of the Second Part.

WHEREAS Canadian Titanium is engaging in the business of manufacturing and selling titanium dioxide pigments in the Dominion of Canada and the Colony of Newfoundland hereinafter referred to as "the said territory"; and

WHEREAS Laporte, National Titanium Pigments Limited (hereinafter called "National Titanium") of Luton, England, Titanium Limited of Outremont, Canada, and La Societe de Produits Chimiques des Terres Rares (hereinafter called "S.T.R.") of Paris, France, own or control patent rights and processes for the manufacture and/or use of titanium dioxide pigments within the said territory; and

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WHEREAS Canadian Titanium desires to acquire and Laporte has agreed on behalf of itself and of National Titanium, Titanium Limited and S.T.R. (which latter three companies are hereinafter sometimes referred to as "its associates") to sell and transfer to Canadian Titanium the said patent rights and processes together with the existing business and goodwill of Laporte and of each of its associates relating to the manufacture and/or sale of titanium dioxide pigments in the said territory.

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED by and between the parties as follows:—

1. The expression "titanium dioxide pigments" whenever used in this agreement means all forms of the element titanium and all substances, materials and compositions containing two percent (2%) or more of that element in a chemically, mechanically or physically combined state (including simple mixtures thereof), which can be used as pigments, whether or not adapted for other uses, but does not include finished articles such as paint, rubber, glass, etc.

2. Laporte shall assign, transfer and transmit and shall cause to be assigned, transferred and transmitted to Canadian Titanium for use within the said territory all Canadian Letters Patent owned by Laporte and/or any of its associates as at 1st January, 1937, and all Canadian Applications for patents filed by Laporte and/or any of its associates on or before such date, relating to the manufacture and/or use of titanium dioxide pigments. Such patents and applications are listed in Schedule "A", attached hereto, which list is intended to be accurate and

complete, but should any of the said patents or applications issued or pending as at 1st January 1937 and covered hereunder have been omitted, such schedule shall be amended to include any patent or application so omitted. Laporte on behalf of itself and of its associates warrants that there are no outstanding licences under the said patents and no obligation or encumbrance affecting the said patents and applications which would prevent the full use and enjoyment thereof by Canadian Titanium.

3. Laporte agrees to execute and cause any of its associates to execute forthwith, at the request of Canadian Titanium, any further documents that may be necessary to complete the assignment of the said patents and applications and Canadian Titanium agrees to pay all expenses in connection with the registration of such assignments at the Canadian Patent Office.

4. Should Laporte, National Titanium or Titanium Limited, during the life of this agreement, become entitled to grant rights under any Canadian patent relating to the manufacture and/or use of titanium dioxide pigments, Laporte shall promptly inform Canadian Titanium of such patent and shall, at the request of Canadian Titanium, grant or cause to be granted to Canadian Titanium,

a) whenever exclusive rights may be granted under the said patent, an exclusive royalty-free licence or sub-licence thereunder until the termination of this agreement with, if possible, the right to sub-licence.

b) whenever only non-exclusive rights may be granted under the said patent, a non-exclusive royalty-free licence

or sub-licence under such patent for the life of this agreement with, if possible, the right to sub-licence.

Any licence or sub-licence provided for under this clause shall be granted to Canadian Titanium without cost other than any expense directly applicable to the grant thereof, and the out-of-pocket expenses, if any, incurred by the licensor in procuring the issue of any such Canadian patent.

5. In the event that Laporte, National Titanium or Titanium Limited should now own or should during the life of this agreement, either develop or acquire with the right of disposal in the said territory a y process relating to the manufacture and/or use of titanium dioxide pigments and with respect to which a patent application shall have been filed for any country outside of the said territory, Laporte shall inform Canadian Titanium forthwith of such process, and, at the request of Canadian Titanium shall file or cause to be filed a patent application in Canada at the expense of Canadian Titanium; and shall grant or cause to be granted to Canadian Titanium without royalty an exclusive licence, with the right to sub-licence, under the said application and any patent issued thereon until the termination of this agreement.

6. Should Laporte, National Titanium or Titanium Limited acquire, during the term of this agreement, any rights under any patent relating to the manufacture and/or use of titanium dioxide pigments, with respect to any country outside of the said territory but not with respect to the said territory itself, Laporte agrees to use its best endeavours to ensure that similar rights are offered forthwith to Canadian Titanium for the said territory with respect to the invention covered by said patent. Should any such

rights originate from S.T.R. and not fall within the scope of the preceding Clauses 4 and 5 hereof, it is intended that such rights made available to Canadian Titanium shall not involve the payment of any royalty or other compensation for the use thereof by Canadian Titanium.

7. It is understood and agreed that neither Laporte, nor National Titanium, nor Titanium Limited shall in any way be obliged to supply technical aid or collaboration to Canadian Titanium with respect to any patent rights that may be granted to Canadian Titanium under Clauses 4, 5 and 6 hereof.

8. Laporte shall transfer and cause to be transferred to Canadian Titanium as at 1st January, 1937, the business carried on by Laporte and any of its associates in the said territory with respect to the manufacture, use or sale of titanium dioxide pigments, together with the goodwill attaching to such business, and including marketing facilities and unfulfilled contracts other than those hereinafter mentioned but excluding trade marks and trade names. Laporte agrees to execute and cause to be executed any documents necessary to effect such transfer.

9. Canadian Titanium may, at its option, take over any unexpired sales contracts of Laporte or of any of its associates covering the supply of titanium dioxide pigments in the said territory, a complete list of which contracts shall be furnished to Canadian Titanium forthwith by Laporte. Such of these contracts as are not taken over by Canadian Titanium may be carried out by Laporte and its associates from their stocks already in Canada, or if necessary, from stocks specially imported for that purpose with the knowledge and consent of Canadian Titanium.

Exhibit K-4

It is further agreed that Laporte and its associates may fill such orders for titanium dioxide pigments in the said territory as they had on their books on 18th December, 1936, and which still remain unfilled, from their stocks already in Canada or if necessary from stocks specially imported for that purpose with the knowledge and consent of Canadian Titanium.

10. It is understood and agreed that except for such sales contracts as it may specifically take over, Canadian Titanium does not assume and shall not be responsible for any obligations whatsoever assumed by Laporte and by its associates with regard to the manufacture and/or sale of titanium dioxide pigments in the said territory, and Laporte agrees to indemnify Canadian Titanium and save it harmless with respect to any claims against Canadian Titanium resulting from any such obligations.

11. Laporte agrees on behalf of itself and its associates that it or they will not use or permit to be used in the said territory the trade marks and trade-names relating to titanium dioxide pigments which are now or may be the property of any of them during the term of this agreement.

12. Laporte undertakes and agrees that neither Laporte nor any of its associates will enter, engage in or interest themselves in, directly or indirectly, or assist others to interest themselves in the manufacture and/or sale of titanium dioxide pigments in the said territory for a period of fifteen (15) years from 1st January, 1937; provided however, that nothing in this clause shall be deemed to hinder or prevent the sale by Titanium Limited of that certain

ilmenite mine situated at or near Ivry, in the Province of Quebec, or of ore to be taken from such mine.

13. If the validity of any patent assigned to Canadian Titanium hereunder is attacked or if such a patent is infringed during the term of this agreement, Canadian Titanium shall be entitled to receive from Laporte, National Titanium and Titanium Limited all assistance other than technical that it may deem necessary to defend such patent or prosecute such infringer; provided however, that Canadian Titanium shall be responsible for the cost of such defence or prosecution.

14. If the validity of any patent under which Canadian Titanium is licenced or sub-licenced in accordance with the provisions hereof should be attacked or if any such patent should be infringed during the term of this agreement, Canadian Titanium may, if it sees fit, defend the said patent or prosecute such infringer, as the case may be, and for the purpose of any such defence or prosecution, Canadian Titanium shall be entitled if it so requires to receive from Laporte, National Titanium and Titanium Limited, all assistance other than technical that it may deem necessary; provided however, that Canadian Titanium shall be responsible for the cost of such defence or prosecution.

If Canadian Titanium shall not with reasonable promptness, in the event of any such attack or infringement, take steps either to defend the said patent or to prosecute the infringer, or if it shall have notified Laporte that it does not intend to take any such steps, then Laporte, National Titanium or Titanium Limited, may, if they see fit, defend such patent or prosecute such infringer; provided that the

party so defending or prosecuting shall be responsible for the cost of such defence or prosecution.

It is understood and agreed that all recoveries resulting from such defence or prosecution shall accrue to the party assuming the cost thereof.

15. As full consideration to Laporte and its associates for the business and goodwill transferred hereunder and for all the patents, licences, sub-licences, rights, benefits and privileges whatsoever that Canadian Titanium receives or may receive under this agreement from Laporte or any of its associates, Canadian Titanium shall pay the sum of Twelve thousand pounds (£12,000. 0. 0.) of which Five thousand pounds (£5,000. 0. 0.) shall be payable on the execution of this agreement, and seven instalments of One thousand pounds (£1,000. 0. 0.) each shall be payable on 1st January in each year during the years 1938 to 1944 inclusive. All such payments shall be made to Titanium Limited, whose receipt for the same shall be a complete acquittance and discharge therefor.

16. Canadian Titanium undertakes and agrees jointly and severally with Laporte and its associates that for the period of fifteen years from 1st January, 1937, it shall not enter or engage in the manufacture and/or sale of titanium dioxide pigments outside the said territory and shall not sell or export or knowingly permit any of its licensees or sub-licensees located within the said territory to sell or export any titanium dioxide pigments to any customer located beyond the limits of the said territory and it shall not knowingly sell or deliver any of the said products to a party within the said territory for export beyond its boundaries; provided, however, that Canadian Titanium or its licensees

or sub-licensees shall be permitted to make sales in bulk to E.I. du Pont de Nemours and Company, Inc. in the United States of America and to such Companies engaged in the production of titanium dioxide pigments outside the said territory as are on 1st January, 1937, and at the time of the bulk sales associated by financial links with National Lead Company of the United States of America or its successors or assigns, for the sole purpose of supplementing the production of the said product by the said companies.

17. Canadian Titanium, and Laporte on behalf of itself and of its associates agree that neither party will question in any way the validity of the patents covered by this agreement, whether such patents are assigned hereunder or are subsequently licenced to Canadian Titanium in accordance with the terms of this agreement.

18. Laporte on behalf of itself and of its associates declares that it has no reason to doubt the validity of the patents hereby assigned, but declines to guarantee the validity of all or any of them. Should any of the said patents be held invalid, Canadian Titanium hereby acknowledges and agrees that it shall have no claim whatsoever against Laporte or its associates, either for any reduction in the consideration payable hereunder or for any loss or damages thereby suffered.

19. Laporte covenants and agrees that Titanium Limited will not sell or otherwise dispose of any of its machinery or equipment at present in Canada without ensuring that such machinery or equipment will not or cannot be used for the manufacture of titanium dioxide pigments in the said territory.

Exhibit K-4

20. Wherever throughout this agreement, notification is required to be given by one party to the other, such notification shall be considered to have been given adequately if a written notice is mailed to the head office of such other party.

21. This agreement is made for the term of fifteen (15) years from the 1st day of January, 1937, to the 31st day of December, 1951.

22. This agreement shall enure to the benefit of and be binding upon the parties hereto and their respective successors and assigns and be enforceable by them or any one or more of them at such times and in such manner as they or it shall think fit and either collectively or individually.

23. And it is further hereby agreed that this agreement should be construed and be enforceable according to the Law of England.

IN WITNESS WHEREOF the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

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SCHEDULE "A" REFERRED TO IN AGREEMENT OF 4TH DECEMBER 1937, BETWEEN B. LAPORTE LIMITED AND CANADIAN TITANIUM PIGMENTS LIMITED.

Canadian Letters Patent Nos.		Date of Issue	Inventors
246,624		Feb. 10/25	J. Blumenfeld
246,625		Feb. 10/25	J. Blumenfeld
258,871	J. Irwin's interest.	Mar. 9/26	J. Irwin R. H. Monk
258,872		Mar. 9/26	J. Irwin R. H. Monk.
263,084		Aug. 3/26	Blumenfeld & Wiesmann
265,972		Nov. 23/26	Blumenfeld & Mayer
265,973		Nov. 23/26	Blumenfeld & Mayer
269,983		Apr. 19/27	P. A. MacKay
272,238		July 12/27	Blumenfeld
272,762		Aug. 2/27	Blumenfeld
280,382		May 22/28	Stephens, Anderson & Cash
294,792		Nov. 12/29	Alcock & Weber
296,471		Jan. 7/30	C. de Rohden
296,798		Jan. 21/30	M. Mayer
297,815		Feb. 25/30	Stephens, Anderson & Cash
298,490		Mar. 18/30	C. de Rohden
298,491		Mar. 18/30	C. de Rohden
300,248		May 13/30	Monk & Firing (Irwin)
304,089		Reissue of C.P.246,624	Blumenfeld
305,012		Oct. 21/30	Monk & Firing (Irwin)
305,272		Reissue of C.P.246,625	Blumenfeld
319,125		Jan. 19/32	G. Kubin
345,516		Oct. 23/34	Weber & Bennett

Exhibit K-4

THE COMMON SEAL OF B. LAPORTE LIMITED was hereunto affixed in the presence of:—

I.E. Weber
L.P. O'Brien } Directors

W.J. Piggett Secretary

A.M.
C.A.

THE COMMON SEAL OF CANADIAN TITANIUM PIGMENTS LIMITED was hereunto affixed in the presence of:—

L.W. Haslett } President

Russell Smith Secretary

Exhibit K-5

THIS AGREEMENT made this 27th day of February 1939, by and between National Lead Company, a corporation organized and existing under the laws of the State of New Jersey, U.S.A., having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "NATIONAL", which expression includes its successors and permitted assigns) of the one part and Canadian Titanium Pigments Limited, a corporation organized and existing under the laws of the Dominion of Canada and having its head office at the City of Montreal, Province of Quebec (hereinafter referred to as "CANADIAN TITANIUM", which expression includes its successors and permitted assigns) of the other part;

WHEREAS it has been the practice between CANADIAN TITANIUM and NATIONAL to offer to each other inventions under certain patents owned or controlled either by CANADIAN TITANIUM or by NATIONAL or its associated companies and which cover subject matters partly or wholly outside the Licensed Field of CANADIAN TITANIUM as defined in the agreement of 1st January, 1937, between the parties hereto, but which are of interest for the production, use and sale of products within the Licensed Field of CANADIAN TITANIUM or the respective Licensed Fields of NATIONAL and its associated companies, as for instance: recovery of materials used in the titanium industry (e.g., sulfuric acid); utilization of by-products (e.g. copperas); production of extender pigments, apparatus, and the use of titanium pigments and compounds as well as of by-products and extender pigments; and

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WHEREAS it is the intention of the parties hereto to continue the aforesaid practice and it is deemed desirable to confirm the effective result which such practice is intended to achieve.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that the parties hereto have agreed as follows:

1. It is hereby agreed by and between the parties hereto that when the above described inventions are offered as aforesaid and accepted, it means—unless reservations are made—that whoever owns or controls such inventions is willing to give and thereupon gives to the party hereto who is offered and accepts such inventions (and to any of the associated companies of NATIONAL which thereafter may be offered and may accept such inventions in cases where such inventions are owned or controlled by CANADIAN TITANIUM), such rights as it is then empowered to give to use such inventions under patent applications and patents applicable outside its own territory, for the purposes of the production, use and sale of products falling within the Licensed Field of the recipient of such rights and upon the same conditions as those governing the exchange of other inventions falling witnin the scope of such Licensed Field.

2. It is specifically understood that in cases where the recipient of such rights is not interested in obtaining exclusive rights for the purposes mentioned under the preceding clause, it will so advise forthwith and it will thereupon be entitled to non-exclusive rights for such purposes.

3. It is further understood that the provisions of this agreement shall extend only to the benefit of such of the

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associated companies of NATIONAL which in general act or will act toward CANADIAN TITANIUM in a reciprocal manner.

4. The expression "associated companies" as used herein means all companies which have received or shall receive licenses in accordance with the conditions contained in Article XIV of the agreement of 30th July, 1920, between National Lead Company and Titanium Company Inc., and also includes Titanium Company Inc. and E. I. duPont de Nemours & Company.

IN WITNESS WHEREOF the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

NATIONAL LEAD COMPANY

signed FLETCHER W. ROCKWELL
HENRY O. BATES

CANADIAN TITANIUM PIGMENTS LIMITED

L. W. HASLETT
President

RUSSELL SMITH
Secretary

Exhibit L

THIS AGREEMENT, made this 5th day of August, 1937, by and between E. I. DU PONT DE NEMOURS & COMPANY, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "du Pont"), and VIRGINIA CHEMICAL CORPORATION, a corporation organized under the laws of the State of Delaware (hereinafter referred to as "Virginia").

WITNESSETH:

WHEREAS du Pont is engaged in the manufacture and sale of titanium dioxide (TiO_2) and related products, and is the owner of certain Letters Patent issued by the United States covering processes for the manufacture of titanium dioxide, all of which Letters Patent are described in Schedule "A", attached hereto and made a part hereof; and

WHEREAS Virginia is engaged in the manufacture and sale of titanium dioxide and related products, and desires to obtain a license under the aforesaid Letters Patent of du Pont;

NOW, THEREFORE, in consideration of the premises and of the covenants contained herein, the parties hereto have agreed as follows:

I.

(a) Du Pont hereby grants to Virginia a non-exclusive license to make titanium dioxide in the quantities specified in paragraph (b) of this Article, and to use and sell tita-

nium dioxide so produced, throughout the United States of America and the territories and dependencies thereof, under the Letters Patent described in Schedule "A" hereof and any reissues or divisions thereof.

(b) The total quantity of titanium dioxide (including the titanium dioxide content of all compounds, mixtures and other products) made by Virginia wholly or partly under the claims of the patents licensed to it hereunder, shall not exceed in any annual period during the continuance of this agreement the quantity specified for such year in the following table:

Annual Period	*Quantity*
October 1, 1937 to September 30, 1938	3,000 tons
" " 1938 " " " 1939	3,000 "
" " 1939 " " " 1940	3,000 "
" " 1940 " " " 1941	6,000 "
" " 1941 " " " 1942	6,000 "
" " 1942 " " " 1943	6,000 "
" " 1943 " " " 1944	6,000 "
" " 1944 " " " 1945	6,000 "
" " 1945 " " " 1946	6,000 "
Each subsequent annual period	9,000 "

II.

(a) Virginia shall pay to du Pont a royalty at the rate per pound specified in paragraph (b) of this Article on the total quantity of all titanium dioxide, including the titanium dioxide content of all compounds, mixtures and other products, produced by Virginia during each calendar year throughout the period of this agreement; subject, however, to the provisions of Article III hereof.

(b) The amount of royalty payable by Virginia as aforesaid on each and every pound of titanium dioxide produced

by it shall be equal to two per cent. (2%) of the selling price per pound of titanium dioxide as contained in du Pont's published carload selling price to the general trade, in effect at the close of each quarterly period for which royalties are payable hereunder; provided, however, that the royalty so payable by Virginia shall be not less than one-fourth of one cent (¼¢) per pound.

(c) Royalties on titanium dioxide produced by Virginia during each calendar quarterly period shall be paid to du Pont, at its office at Wilmington, Delaware, within thirty (30) days after the end of such quarter.

(d) Virginia shall maintain suitable records showing the quantities of titanium dioxide produced by it during the period of this agreement, and the representatives of du Pont shall have the right to inspect such records at any time or times during business hours.

III.

(a) Virginia hereby grants to du Pont a non-exclusive, non-assignable royalty-free license to make, use and sell titanium dioxide throughout the United States of America and the territories and dependencies thereof under the inventions described in United States Letters Patent No. 2,066,074 and Application for United States Letters Patent Serial No. 138,104 (as submitted by Virginia to du Pont under date of July 7, 1937).

(b) In consideration of the license granted under paragraph (a) of this Article, du Pont agrees that titanium dioxide produced by Virginia solely by means of the calcium base process described in the patent and application mentioned in said paragraph (including any modifications of

said process which do not infringe any of the claims of the letters patent licensed hereunder) shall be exempt from the quantity limitation set forth in paragraph (b) of Article I and from the royalty obligations set forth in Article II hereof; provided, however, that this exemption shall apply only where said process includes the rapid mixing of titanium dioxide sulfate solution and calcium sulfate slurry within a period of less than two minutes and forty-five seconds (2′ 45″).

(c) Virginia shall permit the representatives of du Pont at all reasonable times to make a full inspection of Virginia's manufacturing operations for the purpose, and only for the purpose, of verifying that all or part of such operations conform to the process and speed limits referred to in paragraph (b) of this Article.

IV.

If at any time during the life of this agreement du Pont should grant a license under any or all of the patents enumerated in Schedule "A" hereof, and should charge therefor a royalty lower in rate than the royalty terms herein set forth, the royalty imposed hereunder shall be reduced to correspond to such lower rate so long as the latter is payable by any other licensee of du Pont. The provisions of this Article shall not be deemed to apply to the granting of any license by du Pont primarily for a consideration other than the payment of cash royalty by the licensee.

V.

(a) Virginia admits the validity of each of the Letters Patent listed in Schedule "A" hereof, and agrees that it will

not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The termination of this license for any cause prior to its normal expiration shall not affect the provisions of this Article or release or discharge Virginia from the admission and estoppel herein set forth.

(b) Du Pont admits the validity of United States Letters Patent No. 2,066,074 and of any Letters Patent issued on Application for United States Letters Patent Serial No. 138,104 (insofar as the Letters Patent so issued cover the invention or inventions claimed in said Application as submitted by Virginia to du Pont under date of July 7, 1937), and agrees that it will not directly or indirectly infringe or contest the validity or scope of any of the claims thereof, or aid or encourage others in so doing. The provisions of this paragraph (b) shall be effective so long as du Pont is licensed under said Letters Patent.

VI.

(a) Virginia agrees that it will affix to the containers of all products made and sold by it under the license granted in Article I hereof, such notices or markings as may be required by du Pont to designate the Letters Patent under which such products shall have been produced.

(b) Du Pont agrees that it will affix to the containers of all products made and sold by it under the license granted in Article III hereof, such notices or markings as may be required by Virginia to designate the Letters Patent under which such products shall have been produced.

Exhibit L

VII.

This agreement shall remain in full force and effect until the expiration of all the Letters Patent listed in Schedule "A" hereof; provided, however, that if Virginia shall fail to perform any of the provisions to be performed by it hereunder, and shall fail to remedy such default within thirty (30) days after notice from du Pont specifying such default, du Pont may terminate this agreement at any time by so notifying Virginia in writing; and provided further, that Virginia may terminate this agreement at any time after the expiration of ten (10) years from the date hereof, if the products then made by it and the methods of producing the same do not infringe the claims of any of the unexpired Letters Patent licensed hereunder, and if it makes available to du Pont all information evidential of such non-infringement. The termination or expiration of this agreement for any cause shall be without prejudice to the rights and remedies of du Pont for any royalties then accrued or earned hereunder, or for any antecedent breach hereof.

VIII.

The rights and obligations under this agreement shall inure to and be binding upon du Pont, its successors and assigns but shall not be assigned or transferred by Virginia without the written consent of du Pont, except to a corporation into or with which Virginia shall be merged or consolidated, or which shall acquire all or substantially all of its assets.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed by their officers thereunto

duly authorized and their corporate seals to be hereunto affixed, as of the day and year first above written.

E. I. DU PONT DE NEMOURS & COMPANY

By (s) C. H. RUPPRECHT
General Manager

Attest:

(s) M. D. FISHER
Ass't. Secretary

VIRGINIA CHEMICAL CORPORATION

By (s) JOHN ALLEGAERT
Pres.

Attest:

(s) HORACE J. SEEBECK
Secy.

C.H.B.

Form Approved
Legal Department
H. C. Haskell
Acting Director

Exhibit L

SCHEDULE "A"

Patent Number	Dated	Inventor	Entitled
1,357,690	11/2/20	O. T. Coffelt	Process for the Recovery of Titanium from its Ores
1,489,183	4/1/24	Weizman & Blumenfeld	Production of Titanic Acid
1,504,669	8/12/24	J. Blumenfeld	Titanium Compound
1,504,670	8/12/24	J. Blumenfeld	Titanium Compound
1,504,671	8/12/24	J. Blumenfeld	Titanium Compound
Reissue 16,956	5/8/28	J. Blumenfeld	Titanium Pigment
Reissue 17,429	9/10/29	J. Blumenfeld	Preparation of Titanium Hydroxide
Reissue 17,430	9/10/29	J. Blumenfeld	Preparation of Titanium Hydroxide
1,633,621	6/28/27	J. Blumenfeld	Filtration of Solutions and the Like
1,639,423	8/16/27	J. Blumenfeld	Preparation of Pigments and Paints
1,649,496	11/15/27	N. Specht	Process for the Manufacture of Titanic Oxide
1,655,940	1/10/28	J. d'Ans et al.	Process of Preparing Titanic Oxide from Titanic Ores
1,707,248	4/2/29	J. Blumenfeld	Process for the Manufacture of Titanium Oxide
1,707,257	4/2/29	C. de Rohden	Production of Titanium Tetrachloride
1,750,287	3/11/30	N. Specht	Process of Producing Permanent Paints
Reissue 18,790	4/4/33	W. Mecklenburg	Production of Titanium Dioxide
Reissue 18,854	5/30/33	J. Blumenfeld	Production of Titanium Oxide
1,797,760	3/24/31	C. de Rohden	Production of Titanium Compositions
1,827,691	10/13/31	N. Specht	Process of Treating Ores of Titanium Containing Chromium & Recovering the Sulphuric Acid
1,832,666	11/17/31	N. Specht	Process for the Manufacture of Brown Pigment Containing Titanium from Sludge of Titanium
1,845,633	2/16/32	N. Specht	Process for the Purification of Impure Dioxide of Titanium Containing in Particular Chromium
1,846,188	2/23/32	C. de Rohden	Production of Titanium Pigments
1,851,487	3/29/32	J. Blumenfeld	Preparation of Titanium Hydroxide

Exhibit L

Patent Number	Dated	Inventor	Entitled
Reissue 19,594	5/28/35	Leuchs	Process of Manufacturing Titanium Oxide Suitable for Use as a Pigment
1,885,187	11/1/32	C. de Rohden	Production of Titanium Pigments
1,885,921	11/1/32	G. Kubin	Process for Reducing the Oil Absorption of Titanium Dioxide Pigment
1,885,934	11/1/32	M. Mayer	Art of Producing Oxides of the Fourth Group Metals
1,892,693	1/3/33	Blumenfeld & Mayer	Preparation of Titanium Pigments
1,899,572	2/28/33	Paul Kubelka	Method of Dissolving Titanium Tetrachloride in Aqueous Solvents
1,899,573	2/28/33	Paul Kubelka	Process of Preparing Clear Solutions of Titanium Chloride
1,899,574	2/28/33	Paul Kubelka	Process of Preparing Concentrated Clear Solutions of Titanium Chloride
1,902,203	3/21/33	von Bichowsky	Process of Preparing Titanium Dioxide
1,915,393	6/27/33	von Bichowsky	Method for Producing Titanium Sulphates
1,922,816	8/15/33	R. N. McKinney	Preparation of Stabilized Titanous Salt Solutions
1,931,380	10/17/33	Haber & Kubelka	Production of Titanium Dioxide from Titanium Tetrachloride
1,931,381	10/17/33	Haber & Kubelka	Production of Titanium Dioxide from Titanium Tetrachloride
1,937,037	11/28/33	N. L. Hanahan	Process of Making Titanium Oxide of Fine Texture
1,975,339	10/2/34	von Bichowsky	Method of Improving Pigments Containing Titanium
2,026,862	1/7/36	Blumenfeld & Mayer	Preparation of Titanium Pigments
2,031,750	2/25/36	von Bichowsky	Method for Purifying Titanium Suboxide Materials
2,044,941	6/23/36	N. L. Hanahan	Titanium Dioxide Pigments of Fine Texture
2,047,208	7/14/36	Krchma	Process of Reducing Titanium Sulphate Liquors
2,049,504	8/4/36	Krchma	Cyclic Process for Reducing Titanium Sulphate Liquors

Exhibit M

LICENSE AGREEMENT

This agreement, made and entered into this 27th day of July, 1937, by and between E. I. DU PONT DE NEMOURS AND COMPANY, hereinafter referred to as DU PONT, a corporation organized and existing under and by virtue of the laws of the State of Delaware, with its principal place of business at Wilmington, Delaware, and TITAN CO., INC., hereinafter referred to as TITAN, a corporation organized and existing under the laws of the State of Delaware, having its principal place of business in New York.

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to the following letters patent and applications therefor, filed by James E. Booge as inventor, and relating to Blended Titanium Dioxide Pigments,

Country	*Date*	*No. of Patent*
Great Britain	April 26, 1937 (Accepted)	464,836
Italy	Oct. 29, 1935	
France	Jan. 27, 1936	796,587
Germany	Appln. filed Oct. 28, 1935	Ser.No.K.139.771 IV b/22 f
Czechoslovakia	Appln. filed Oct. 29, 1935	Ser.No. P6251/35

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-

assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products covered by the aforesaid letters patent and applications throughout the countries in which said letters patent have been granted or in which patents may be subsequently granted, as a result of said applications.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited) royalty-free, non-assignable license, under the aforesaid letters patent and applications therefor relating to blended titanium oxide pigments, to-wit:

Country	*Date*	*No. of Patent*
Great Britan	April 26, 1937 (Accepted)	464,836
Italy	Oct. 29, 1935	336,407
France	Jan. 27, 1936	796,587
Germany	Appln. filed Oct. 28, 1935	Ser.No.K.139.771 IV b/22 f
Czechoslovakia	Appln. filed Oct. 29, 1935	Ser.No. P6251/35

and under any prolongation or extension in terms thereof, to practice throughout the United Kingdom of Great Britain, Ireland and the Isle of Man, France, Italy, Germany and Czechoslovakia only, any process disclosed or

claimed in said letters patent or applications therefor, and to make, use and/or sell throughout each of the aforesaid countries, any products described and/or claimed in said letters patent and/or applications. The license herein granted shall extend to the full end of the term for which said letters patent have been granted or may be subsequently granted in said countries, and the expiration of a patent in one or more of said countries shall not abrogate the license or licenses in any of the remaining countries.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT, or any of its controlled subsidiaries, to freely use and employ said inventions comprised within said Letters Patent and/or applications throughout the countries mentioned, as well as the right of Imperial Chemical Industries, Limited, of London, England, to use and employ said inventions throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

3. TITAN may grant royalty-free sub-licenses hereunder to the following specific associate companies, to-wit:

(1) Titangesellschaft m.b.H., Leverkusen, Germany

(2) British Titan Products Co., Billingham, England

(3) Societe Industrielle du Titane, Paris, France;

and may, upon consent in writing of DU PONT first obtained and under such terms and conditions as DU PONT in its sole discretion shall deem acceptable, grant additional sub-licenses hereunder to any other person, firm, company or corporation.

Exhibit M

4. In the event TITAN shall grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The said royalties shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding three calendar months during which said royalty shall have been received by TITAN.

5. TITAN hereby accepts the license herein granted and agrees to pay all necessary maintenance fees and/or taxes and effect all necessary workings to maintain said letters patent or those which may subsequently issue as a result of said applications throughout the term covered by this license and within the countries specified. TITAN also agrees not to permit the abandonment of any of said letters patent or of any which may issue as a result of said applications, and in the event TITAN decides to abandon said letters patent, it will notify DU PONT promptly of such intention.

6. TITAN, during the period of this license, acknowledges each of the above patents and any patent or patents which may subsequently issue as a result of the aforesaid applications, as good and valid and agrees not to directly or indirectly contest the validity of such patents, nor to assist others in any infringing operation, but as far as reasonably possible agrees to assist DU PONT in maintaining the validity of each of said patents.

7. It is understood and agreed that the herein created license shall pertain to the Blended Titanium Dioxide Pig-

ment patents and applications hereinabove set out, and that no rights whatsoever are granted herein under any other inventions, patent applications and/or patents now owned or hereafter acquired by DU PONT.

8. DU PONT shall be under no obligation to defend TITAN against suits for infringement arising out of TITAN'S operations under the license herein granted, nor shall DU PONT be liable to any extent for damages assessable against TITAN by virtue of any such infringement.

9. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said applications are infringed by third parties, then TITAN shall have the right to bring suit against such infringers and for the purposes of said suit shall have the right to sue in DU PONT'S name, or include DU PONT as a nominal party-plaintiff with DU PONT'S prior written approval thereof. DU PONT shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that DU PONT may at its election bring suit against infringers in its own name and/or join with TITAN in other than a nominal capacity.

10. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by TITAN and DU PONT, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where DU PONT elects to bring suit in its own name, TITAN agrees to assist DU PONT to obtain evidence to be used by DU PONT in the prosecution of suits for

infringement hereunder to the extent to which TITAN is reasonably able to do, and to otherwise assist DU PONT in the prosecution of such suits to the same extent.

11. This agreement shall be binding upon and inure to the benefit of the parties hereto, their successors, assigns and legal representatives.

TITAN CO., INC.

By (Sgd) W. C. BESCHORMAN
Exec. Vice Pres.

Attest:

W. DOUGLAS COLE
Secretary

E. I. DU PONT DE NEMOURS AND COMPANY,

By (Sgd) C. H. RUPPRECHT
General Manager

Attest:

M. D. FISHER
Asst. Secretary

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Exhibit N

LICENSE AGREEMENT

This agreement, made and entered into this day of June, 20th, 1938, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following pending applications for letters patent of the United States, to-wit:

(a) Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints, Serial No. 69,888, filed March 20, 1936

(b) Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, Serial No. 33,264, filed July 26, 1935

(c) Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same, Serial No. 134,577, filed April 2, 1937

and is about to file corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as follows, to-wit:

(a) In Great Britain:

Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints;

(b) In Germany:

Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, and

(c) In France, Holland and Belgium:

Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described in said applications, or any letters patent which may subsequently issue thereon, throughout the designated foreign country or countries in which the aforesaid applications shall be respectively filed;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

Exhibit N

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right and license under the following about-to-be-filed foreign applications for letters patent, to-wit:

(a) Application (701-K) of Robert M. McKinney for Process of Producing White Titanium Dioxide Pigments of Predetermined Subordinate Tints, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man;

(b) Application (743-K) of Gordon D. Patterson for Pigments for Use Particularly in Outside Paints, throughout Germany;

(c) Application (867-K) of Roy W. Sullivan for Pigments and Process for Treating the Same, throughout the countries of France, Holland and Belgium

to practice any process and to make, use and/or sell any products disclosed or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which such application shall be subsequently filed, and shall continue during the pendency of said application and the existence of any letters patent, prolongations or extensions which may issue thereon.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its controlled subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and

claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

3. TITAN may grant royalty-free sublicenses hereunder, within the licensed territory to its associated companies, as follows:

(1) Titangesellschaft m.b.H., Leverkusen, Germany

(2) British Titan Products Co., Billingham, England

(3) Societe Industrielle du Titane, Paris, France;

and may, upon consent in writing from DU PONT first obtained, and under such terms and conditions as DU PONT shall in its sole discretion deem acceptable, grant additional sublicenses within the licensed territory to any other person, firm, company or corporation.

4. In the event TITAN shall grant sublicenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sublicense or sublicenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

5. TITAN hereby accepts the license herein granted and agrees to assume and pay all costs incidental to the prepara-

tion, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision to abandon, and within ample time to permit DU PONT to maintain said patents in its own behalf and at its own expense, should DU PONT so desire.

6. TITAN, during the period of this license, acknowledges as good and valid any patent or patents which may subsequently issue as a result of the aforesaid foreign applications, and agrees not to directly or indirectly contest the validity of said patents or to assist others in any infringing operation, but as far as reasonably possible agrees to assist DU PONT in maintaining the validity of each of said patents.

7. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT.

8. DU PONT shall be under no obligation to defend TITAN against suits for infringement arising out of

TITAN's operations under the license herein granted, nor shall DU PONT be liable to any extent for damages assessable against TITAN by virtue of any such infringement.

9. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said applications are infringed by third parties, then TITAN shall have the right to bring suit against such infringers and for the purposes of said suit shall have the right to sue in DU PONT's name, or include DU PONT as a nominal party-plaintiff with DU PONT's prior written approval thereof. DU PONT shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that DU PONT may at its election bring suit against infringers in its own name and/or join with TITAN in other than a nominal capacity.

10. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by TITAN and DU PONT, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where DU PONT elects to bring suit in its own name, TITAN agrees to assist DU PONT to obtain evidence to be used by DU PONT in the prosecution of suits for infringement hereunder to the extent to which TITAN is reasonably able to do, and to otherwise assist DU PONT in the prosecution of such suits to the same extent.

Exhibit N

11. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

(SEAL)

TITAN COMPANY, INC.

By G. JEBSON
Vice-President

ATTEST:

C. F. KAEGEBEHN
Ass't. Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By C. H. RUMPRECHT
General Manager
Krebs Pigments Department

ATTEST:

E. A. HOWARD
Assistant Secretary

A. G. C.

Form Approved
Legal Department
H. C. HASKELL
Asst. Director

Exhibit O

THIS AGREEMENT made this 28th day of March, 1939 by and between National Lead Company, a corporation organized and existing under the laws of the State of New Jersey, having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "National", which expression includes its successors and permitted assigns) of the one part and Titan Company, Inc., a corporation organized and existing under the laws of the State of Delaware, having an office at 111 Broadway of the City and State of New York (hereinafter referred to as "Titan", which expression includes its successors and permitted assigns) of the other part;

WHEREAS, it has been the practice between National and Titan to offer to each other inventions under certain patents owned or controlled either by National or by Titan or their associated companies, and which cover subject matters partly or wholly outside the Licensed Field as defined in the agreement of 30th July, 1920, between the parties hereto, but which are of interest for the production, use and sale of products within that said Licensed Field, as for instance: recovery of materials used in the titanium industry (e.g. sulfuric acid); utilization of by-products (e.g. copperas); production of extender pigments, apparatus, and the use of titanium pigments and compounds as well as of by-products and extender pigments; and

WHEREAS, it is the intention of the parties hereto to continue the aforesaid practice and it is deemed desirable to confirm the effective result which such practice is intended to achieve

Exhibit O

NOW, THEREFORE, THIS AGREEMENT WITNESSETH that the parties hereto have agreed as follows:

1. It is hereby agreed by and between the parties hereto that when the above described inventions are offered as aforesaid and accepted, it means—unless reservations are made—that whoever owns or controls such inventions is willing to give and thereupon gives to the party hereto who is offered and accepts such inventions (and to any of the associated companies of National and Titan which thereafter may be offered and may accept such inventions), such rights as it is then empowered to give to use such inventions under patent applications and patents applicable outside its own territory, for the purposes of the production, use and sale of products falling within the Licensed Field of the recipient of such rights and upon the same conditions as those governing the exchange of other inventions falling within the scope of such Licensed Fields.

2. It is specifically understood that in cases where the recipient of such rights is not interested in obtaining exclusive rights for the purposes mentioned under the preceding clause, it will so advise forthwith and it will thereupon be entitled to non-exclusive rights for such purposes.

3. It is further understood that the provisions of this agreement shall extend only to the benefit of such of the associated companies of National and Titan which in general act or will act in a reciprocal manner.

4. The expression "associated companies" as used herein means all companies which have received or shall receive licenses in accordance with the conditions contained in afore-

mentioned Article XIV of the Agreement of 30th July, 1920, and also E. I. du Pont de Nemours & Company.

IN WITNESS WHEREOF, the parties hereto have caused their corporate seals to be hereunto affixed and attested by the hands of their proper officers.

NATIONAL LEAD COMPANY

FLETCHER W. ROCKWELL.
President

Attest:

H. O. BATES, Secretary

TITAN COMPANY, INC.

C. F. GARESCHE
Vice Pres.

Attest:

CHARLES F. KAEGEBEHN
Assistant Secretary

Exhibit P

INTERNATIONAL PULVERIZING CONTRACT

(Micronizer Matter)

AGREEMENT made this 10th day of April, 1939, by and between INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey, (hereinafter called "the Licensor") and NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway, in the City and State of New York, (hereinafter called "the Licensee").

WITNESSETH

WHEREAS, the Licensor is the owner of United States letters Patent No. 2,032,827, in the name of Norwood H. Andrews, dated March 3rd, 1936, and Canadian Letters Patent No. 359,089, which Letters Patent relate to both the equipment known as the "Micronizer Reduction Mill" and methods for the production of finely divided materials, and as owner of the said Letters Patent has the power to grant licenses thereunder; and

WHEREAS, the Licensee desires to secure a right and license to use the equipment and employ the methods described and claimed in the said Letters Patents, and the Licensor is willing to grant the same pursuant to the terms hereinafter set forth;

Exhibit P

NOW, THEREFORE, in consideration of these premises and of the mutual terms and conditions herein contained, the Licensor and the Licensee mutually agree and covenant as follows:

1. The Licensor agrees to grant and hereby grants to the Licensee and the Licensee accepts from the Licensor a license exclusive of all others, including the Licensor, together with the right to grant sub-licenses hereunder of the character herein defined to others throughout the United States of America under the said United States Letters Patent No. 2,032,827 covering the said Micronizer Reduction Mill and its use, and any re-issue thereof, and under any and all present and future pending applications for United States Letters Patents and Letters Patents and re-issues thereof in reference to the subject matter of the said Patent No. 2,032,827 which the Licensor may own, or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses to use the said Micronizer Reduction Mill and the inventions described and/or claimed therein for the processing of titanium pigments, (except titanated lithopones, for which material a non-exclusive license is hereby given with the right to grant sub-licenses of the same character), and titaniferous ores in the production of titanium pigments and for the processing of such other materials as may be agreed upon from time to time by the parties hereto in writing. The license shall continue until the expiration of the said United States Patent No. 2,032,827, or any re-issue thereof; provided, however, that if upon such expiration there shall be in existence any United States Letters Patent under which a license has been granted hereunder, the Licensee

and/or any sub-licensees hereunder upon election may retain a license thereunder at a royalty rate per ton to be agreed upon but in no event to exceed the royalty herein specified. The Licensee agrees not to use any said mills for the processing and sale of materials other than titanium pigments and titaniferous ores in the production of titanium pigments without the written consent of the Licensor. It is also understood and agreed that the right to grant sub-licenses hereunder shall continue for only so long as the exclusive feature of this license shall remain in force and that in granting any sub-licenses hereunder the Licensee will require that the Sub-Licensees conform to the same obligations directly with respect to the Licensor as are accepted in Articles 2, 3, 4, 5, 6, 7, 8, 9, 10, and 13 of this License Agreement by the Licensee and that if the exclusive feature of this License shall be terminated in the manner hereinafter specified any licenses already granted shall continue in force. In all sub-license agreements it will be provided that all payments of license fees and royalties for the use of the Micronizer Reduction Mills shall be made directly to the Licensor; and the Licensee agrees that it will not endeavor throughout the term of this license to secure or secure for its own benefit any additional license fees and/or royalties for the use of the said Micronizer Reduction Mills. Copy of each and every sublicense agreement shall be furnished to the Licensor by the Licensee.

2. The Licensor will manufacture and deliver to the Licensee and/or Sub-Licensees three Micronizer Reduction Mills designed to operate with a capacity of about 3500 lbs. of steam per hour. The first of these mills will be ready for delivery to the Licensee at the plant of the Licensor in

Moorestown, New Jersey, within six weeks from the date hereof, the second within seven weeks from the date hereof, and the third within eight weeks from the date hereof. The Licensee shall make a down payment which shall be considered as a license fee of Twelve Thousand ($12,000) Dollars; of which Eight Thousand ($8,000) Dollars will be paid by the Licensee to the Licensor upon the execution hereof and the balance of Four Thousand ($4,000) Dollars upon the delivery of the last of the said mills as aforesaid. These mills will be constructed after consultation between the engineers of the Licensor and the Licensee and such Mills shall be of material and design as are acceptable to the Licensee and Sub-Licensees hereunder, and the Licensor will furnish the services of its engineers in connection with the installation and operation of these mills and any other mills that may be subsequently manufactured for the use of the Licensee and/or Sub-Licensees hereunder, at the plants of the Licensee, and Sub-Licensees without any further obligation on the part of the Licensee.

The Licensor will be prepared to manufacture for the use of the Licensee and/or Sub-Licensees hereunder such other Micronizer Reduction Mills as may be required by them either collectively or individually during the term of this agreement upon the following conditions; (a) if an order be received by the Licensor from or on behalf of the Licensee or any Sub-Licensee hereunder, within thirty days from the date of execution of this agreement for three (3) mills in addition to those provided for in Article 2, hereof, the license fee per mill shall be Three Thousand ($3,000) Dollars; but if said next three (3) additional mills be not ordered within 30 days from the date of this agreement then, when ordered, the license fee therefor shall

be Four Thousand ($4,000) Dollars per mill; (b) if at any time subsequent to the date of this agreement two or more mills be concurrently ordered, and in addition to those six already provided for, by the Licensee and/or Sub-Licensees hereunder the license fee per mill shall be Three Thousand ($3,000) Dollars; (c) the License fee on orders for single mills shall be Four Thousand ($4,000) Dollars; provided, however, that if the purchase value of the dollar should materially decrease, then a proper allowance will be made by the Licensee and/or Sub-Licensees for the payment to the Licensor of a sum in excess of the license fees above specified; and, further, provided that the Licensee shall have the right to make or to have made for its use any Micronizer Reduction Mills it may require subsequent to the delivery of the first three mills above provided for, and any Sub-Licensee hereunder shall have the right to make or to have made for its use any Micronizer Reduction Mills it may require subsequent to the delivery of the next three mills also provided for above, and that thereafter any subsequent Sub-Licensee hereunder after fulfilling its initial requirements for the said Micronizer Reduction Mills from Licensor on the terms above specified, i.e. if two or more mills are ordered the license fee for each shall be Three Thousand ($3,000) Dollars; if only one mill is ordered the license fee shall be Four Thousand ($4,000) Dollars, shall have the right to make or to have made for its own use any Micronizer Reduction Mill it may require, in which event the Licensor shall be advised in writing and said mills shall be considered as falling under this agreement to the same extent as if manufactured by the Licensor.

Exhibit P

The Licensor guarantees that any mills delivered to the Licensee and/or Sub-Licensees hereunder shall be free from defects in design, workmanship and materials and the Licensor shall place at the disposal of the Licensee and/or Sub-Licensees the services of its engineers and facilities of its laboratories and experimental plant, at the request of the Licensee and/or Sub-Licensee, for which the Licensee and/or Sub-Licensee shall pay the actual expenses incurred by the Licensor.

3 (a). Commencing July 1, 1939, the Licensee and its Sub-Licensees hereunder shall pay to the Licensor a royalty for the processing of all titanium pigments and titaniferous ores in the said Micronizer Reduction Mills, of fifty cents (50¢) per ton of 2,000 pounds on dry basis for the first 4,000 tons and 25¢ for each ton over 4,000 tons processed in any accounting year; said royalty shall be based on the aggregate tonnage processed by the Licensee and that of all other parties to whom licenses have been granted pursuant to Article 1, above.

3(b). Should the Licensor for any contract year commencing with July 1, 1941, have failed to receive from the Licensee and/or Sub-Licensees hereunder royalties totaling at least $10,000 per annum, or a total sum of $10,000 for said year should the royalties not amount to such sum, the Licensor shall have the right upon written notice to the Licensee after the expiration of any contract year provided for herein to terminate the above defined exclusive feature of the license; and, thereafter, provided that the Licensee shall not within 30 days from the receipt of such notice make up the deficiency in said total royalty

to maintain this license exclusive, the license shall become non-exclusive to the Licensee and the royalties will continue to be at the above specified rate; provided, however, that whenever, after termination of the exclusive feature of this license, the Licensor shall notify the Licensee that it has granted a bona fide license to a responsible party within the field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payment of the Licensee and all other parties to whom licenses may be granted pursuant to Article 1 above, then it is agreed that the Licensee and/or Sub-Licensees hereunder shall pay royalties in pursuance of Section 3(a) hereof at the same rate as that which may be specified in that other agreement; and provided, further, that in the event a non-exclusive license shall be granted at a royalty rate lower than that specified in Article 3a hereof then the Licensee and Sub-Licensees hereunder shall thereafter be obligated only to pay royalties to Licensor at such lower rate.

4. The Licensee shall furnish to the Licensor quarterly statements showing the amount of net production of properly ground, good material which shall have been processed by the Licensee in any Micronizer Reduction Mill, in accordance with the license herein granted, together with a settlement of any royalty which may be payable to the Licensor, which statements and settlements shall be made within thirty days after the close of each quarterly period. Licensee shall keep separate books of account and records with respect to all titanium pigments and titaniferous ores used in the production of titanium pigments processed in licensed Micronizer Reduction Mills by it and by all Sub-

Licensees hereunder, such accounts and records to be in sufficient detail to enable Licensor to determine the royalties payable hereunder. From time to time during business hours and to the extent required to verify the accounts herein provided for, Licensee shall permit Licensor through its designated accountant to examine said books and records.

5. Title to all Micronizer Reduction Mills delivered by the Licensor to the Licensee and/or Sub-Licensees hereunder or manufactured for use of the Licensee and/or Sub-Licensees under Article 2, above, shall be retained by the Licensor, but the same shall be considered leased to the Licensee or Sub-Licensee by the Licensor, which lease shall be co-temporaneous with the period of the license herein granted under U. S. Patent No. 2,032,827 and upon the expiration thereof or in the event that a Court of competent and final jurisdiction from which no appeal is or can be taken, declare the said patent invalid the title to any Micronizer Reduction Mills under lease to the Licensee or respective Sub-Licensee pursuant hereto shall at once pass to the Licensee or Sub-Licensee together with title to any improvements thereon made by Licensee; provided, however, that if this license agreement or any sub-license agreement shall be otherwise terminated as in Section 13 hereof any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to the Licensor together with title to any improvements made by Licensee or Sub-Licensee; it being understood for the purpose of this Article that should the Licensee or Sub-Licensee be then using, in connection with Micronizer Reduction Mill, described and/or claimed in the said Patent No. 2,032,827, any improvement covered by subsequent other United States Letters Patent included in the license herein granted, such use

shall not operate to prolong vesture of title to the said mills in the Licensor beyond the expiration of this license, but title to any improvement shall remain in the Licensor.

6. The Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership in the Licensor, which said marker shall not be removed by the Licensee. The Licensee will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed hereunder, unless it shall have acquired title in accordance with the provisions of this agreement.

7. Each party will place at the disposal of the other all information and data which it may secure from time to time in reference to the operation and construction of the said Micronizer Reduction Mills provided, however, that there shall be no obligation on the part of either party to furnish to the other information which may be in the nature of trade or manufacturing secrets, regarding materials processed.

8. The Licensor by its duly accredited representatives shall have the right to inspect any Micronizer Reduction Mill licensed to the Licensee and Sub-Licensees hereunder at any time during usual business hours and also at the close of each year it shall have the right to examine by its duly authorized accountant the books and records of the Licensee and all Sub-Licensees hereunder insofar as the same may relate to the amount of material which shall have been processed in the aforesaid Micronizer Reduction Mill by the Licensee and Sub-Licensees.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by the

Licensee and Sub-Licensee or those in their control, relative to the patented invention described and/or claimed in the said U. S. Patent No. 2,032,827 or patented invention described and/or claimed in any subsequent United States Letters Patent, under which Licensee shall have a license pursuant with this agreement shall belong to and be assigned to the Licensor, both as to the United States and any foreign country where the Licensor may desire patent protection, and the preparation and filing of any patent application shall be at the expense of the Licensor; provided, that Licensor within 90 days from the date of submission to it of any such invention advise the Licensee and/or Sub-Licensee of its election to procure patent protection thereon; otherwise title to said invention or inventions shall become vested in the Licensee and/or Sub-Licensee, further provided however, that these provisions as to foreign patents shall be subject to any present contractual commitments on the part of the Licensee which at the request of the Licensor shall be certified to the Licensor when the question of filing any such foreign patent application shall arise and; provided, further, that the Licensee or Sub-Licensee shall enjoy after the termination of this license for any reason, the free right of use of any and all improvements made by the Licensee or Sub-Licensee whether the same be patented or unpatented.

10. The Licensee agrees that during the term of this license agreement it will not contest in any manner the validity of any patent under which it is licensed by the Licensor and that it will exercise all reasonable endeavor to use the Micronizer Reduction Mill, to extend its uses, and to make improvements in the operation and construction of the said mill.

Exhibit P

11. The Licensor agrees that during the term of this license agreement it will defend at its own expense any action which may be brought by a third party against the Licensee and/or any Sub-Licensee hereunder or their agents or subsidiaries, claiming that the use of said Micronizer Reduction Mill infringes upon any other United States Letters Patent, providing that the Licensee promptly advise the Licensor of any notice it may receive in reference to any such infringement and cooperate, at the Licensor's expense in such action, and that it will save the Licensee and/or any Sub-Licensee hereunder free and harmless of any expense whatever in connection therewith, whether based upon recovery under an infringement suit or by reason of a settlement of a threatened infringement suit growing out of Licensee's and/or Sub-Licensee's use of the said Micronizer Reduction Mill; provided, however, and notwithstanding anything contained in this agreement to the contrary, that when the total royalties paid to the Licensor by this Licensee and all other Sub-Licensees hereunder shall amount to the sum of Twenty-five Thousand ($25,000) Dollars then no further royalty payments shall be made either by this Licensee, or by any Sub-Licensees hereunder to the Licensor but any such royalties subsequently due the Licensor shall be held in escrow for the benefit of the Licensor, until the final judicial determination of the question as to whether the Micronizer Reduction Mills and its use infringe upon certain United States Letters Patents granted to one Henry G. Lykken, or until this question is settled by agreement between the proprietor of the said Lykken patents and the Licensor, and the Licensee and Sub-Licensees shall be entitled to deduct from such moneys held in escrow such sum or sums as each of them may become liable by

reason of its infringement of the said Lykken patents on account of the use by each of them of the said Micronizer Reduction Mill after which deduction any balance remaining shall be paid over to the Licensor together with such interest as may accrue thereon; and, provided, further, that if at any time after the Licensee and Sub-Licensees hereunder shall have paid to the Licensor as royalties the said sum of Twenty-five Thousand Dollars the Licensee and/or Sub-Licensees shall be made defendants in any infringement action by reason of their use of the said Micronizer Reduction Mills then all royalties accruing thereafter shall be held in escrow for the benefit of the Licensor in the same manner as provided hereinabove.

12. The Licensor agrees, with respect to Canadian Patent No. 359,089, that for a period of three years from July 1, 1939, it will not license or offer to license any party under the said patent to use the Micronizer Reduction Mill and the methods described and claimed therein for the processing of titanium pigments and titaniferous ore for the production of titanium pigments and that if, after July 1, 1942, the Licensor receive a bona fide request for a license it will first offer to the Licensee's associate, Canadian Titanium Pigments, Ltd., the opportunity to acquire a license of the same character and scope and upon the same terms and conditions as those of the bona fide request; provided, however, that should Licensee's associate, Canadian Titanium Pigments, Ltd. at any time prior to or, in the event no other license has been granted by the Licensor, subsequent to the three-year option period herein established desire to obtain a license under the said Canadian Patent No. 359,089, of the same character and scope as hereunder granted the

Licensee, Licensor will grant such license upon the same terms and conditions as hereunder defined except that for the purposes of establishing the rate of royalty and minimum royalty guaranty Canadian Titanium Pigments, Ltd. shall be considered as another Sub-Licensee under Article 1, hereof; and provided, further that the provisions in this Article 12 shall be subject to any present contractual commitments on the part of the Licensor which at the request of the Licensee shall be certified to the Licensee when the question shall arise.

13. In the event of a breach in the terms of this contract by the Licensee, or of a breach by any Sub-Licensee in the terms of its contract, the Licensor shall notify the delinquent party in writing of such default, and should the said delinquent party fail to remedy the said default within 30 days after the receipt of said notice, then the Licensor shall have the right at its election to terminate the license or sub-license agreement and to become repossessed of the Micronizer Reduction Mills licensed to the said delinquent party but such termination shall not in any way affect the licenses enjoyed by non-delinquent Licensee and/or Sub-Licensees; and the Licensee and Sub-Licensees hereunder may cancel their respective license or sub-license agreement for any reason at any time upon three months written notice to the Licensor, in which event the Licensee or respective Sub-Licensee shall be obligated to pay to the Licensor only such royalties as have accrued at the rate above specified to the date of the termination of the terminated agreement; it being understood for the purpose of this Article that if the said Patent No. 2,032,827 be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken all royalty payments shall cease

and determine immediately and the rate of royalty to be paid by the Licensee and Sub-Licensees hereunder to the Licensor for the use of any other patent under which in accordance with this agreement it may enjoy a license shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

14. This license shall be non-assignable except to the successors in business of the parties hereto and except that the right to receive royalties hereunder may be assigned by the Licensor without however, relieving the said Licensor of any of the obligations taken herein.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed by their duly authorized officers and their corporate seals to be affixed hereto the day and year aforesaid.

INTERNATIONAL PULVERIZING CORPORATION

By A. M. STACKHOUSE, President

Attest:

W. ANDREWS,
Asst. Secy.

NATIONAL LEAD COMPANY

By FLETCHER W. ROCKWELL, President

Attest:

H. O. BATES, Secretary

Exhibit P-1

AGREEMENT

This agreement, made and entered into this 14th day of April 1939 by and between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway in the City and State of New York (hereinafter referred to as NATIONAL) and E. I. DU PONT DE NEMOURS AND COMPANY, a corporation organized and existing under the laws of the State of Delaware, having its principal place of business at Wilmington, Delaware (hereinafter referred to as DU PONT),

WITNESSETH THAT,

WHEREAS, INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey (hereinafter referred to as INTERNATIONAL) is the owner of the entire right, title and interest in and to a certain United States Letters Patent No. 2,032,827, dated March 3, 1936, for a Micronizer Reduction Mill, and

WHEREAS, pursuant to an agreement dated April 10th, 1939, between INTERNATIONAL and NATIONAL, the latter has become possessed of certain limited, exclusive rights to use together with the right to sub-license others to use non-exclusively the inventions described and/or claimed in said Letters Patent No. 2,032,827, or any reissue thereof, and

Exhibit P-1

WHEREAS, under said agreement of April 10th, 1939, INTERNATIONAL covenants and agrees to grant and accord to any sub-licensee of NATIONAL thereunder the same rights, benefits, privileges and immunities which INTERNATIONAL grants to NATIONAL thereunder, and

WHEREAS, DU PONT desires to obtain and NATIONAL is willing to grant a non-exclusive license to use said Micronizer and employ the methods described and/or claimed in said letters patent or any reissue thereof, throughout the United States of America, and du Pont desires to acquire all benefits, privileges and immunities which may be conferred on a sub-licensee pursuant to said agreement with INTERNATIONAL dated April 10th, 1939.

NOW, THEREFORE, in consideration of the mutual benefits flowing from each party to the other and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of the mutual promises, covenants and undertakings herein set forth and to be duly kept and performed, it is mutually agreed as follows:

1. NATIONAL hereby grants to DU PONT throughout the United States of America a non-exclusive license under United States Letters Patent No. 2,032,827, for a Micronizer Reduction Mill, or any reissue thereof, and under any and all present and future pending applications for United States letters patent, or letters patent or reissues thereof, in reference to the subject matter of said Patent No. 2,032,827, which NATIONAL may now possess or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses under said

agreement of April 10th, 1939, to use said Micronizer and the inventions described and/or claimed in said Letters Patent No. 2,032,827 for the processing of titanium pigments (including titanated lithopone) and titaniferous ores in the production of titanium pigments and for processing of such other materials as the parties hereto, in writing, may agree upon from time to time. The license herein granted shall continue until the expiration of said Letters Patent No. 2,032,827 or any reissue thereof, provided, however, that if upon such expiration there shall be in existence any United States letters patent under which a license has been granted hereunder, DU PONT, at its election, may retain said license but at a royalty per ton to be agreed upon; but in no event to exceed the royalty herein provided for. NATIONAL furthermore hereby grants, but without itself guaranteeing the performance thereof by INTERNATIONAL, to DU PONT all the rights, benefits, privileges and immunities which are provided and granted for a sub-licensee of NATIONAL pursuant to the terms of the aforesaid contract of April 10th, 1939 between NATIONAL and INTERNATIONAL, including particularly the provisions of Sections 1, 2 and 11 therein.

2. DU PONT agrees that during the period of this license it will not contest in any manner the validity of any patent under which it is sub-licensed hereunder and that it will exercise all reasonable efforts to use the Micronizer Reduction Mills, to extend their uses, and to make improvements in their operation and construction.

3. Commencing July 1, 1939, DU PONT agrees to pay and remit directly to INTERNATIONAL, as a royalty hereunder, for all properly ground, good titanium pigments and

titaniferous ores used in the production of such pigments processed in the licensed Micronizers, fifty cents (50¢) per ton (of 2,000 pounds and on a dry basis) for the first 4,000 tons, and twenty-five cents (25¢) for each ton over 4,000 tons in any accounting year; said royalty to be computed and based upon the aggregate tonnage of licensed materials which NATIONAL and DU PONT, and/or any other sub-licensee or sub-licensees of NATIONAL shall process in said Micronizers in pursuance of said agreement of April 10th, 1939 between INTERNATIONAL and NATIONAL. In order that DU PONT may correctly arrive at any royalties due from it in pursuance of this section, NATIONAL agrees to promptly furnish DU PONT, prior to the due date of any such royalties, with quarterly statements showing the tonnage of micronized licensed materials which NATIONAL and/or its other sub-licensees shall have processed during the preceding quarter in each accounting year; and DU PONT likewise agrees to furnish NATIONAL with similar quarterly statements showing the tonnage of micronized licensed material which DU PONT shall so process.

The royalties herein provided for shall be computed quarterly as of the first day of July, October, January and April, for the preceding quarter, and the net production of properly ground, good material which shall have been processed by DU PONT in any Micronizer Reduction Mill in accordance with the license herein granted during each quarter, shall be reported directly to INTERNATIONAL, accompanied by a check payable to INTERNATIONAL for the royalty due thereon, not later than thirty (30) days after the end of the quarter to which such report relates. A copy of any such quarterly report shall be concurrently forwarded by DU PONT to NATIONAL.

DU PONT agrees to keep separate and accurate books of account and records with respect to all properly ground, good material which it shall process in accordance with this license in the licensed Micronizers; such accounts and records to be in sufficient detail to enable INTERNATIONAL to determine the royalties payable hereunder. DU PONT, from time to time, during business hours, and to the extent required to verify the records herein provided for, shall permit its books and records to be examined by INTERNATIONAL'S authorized agent or officers.

4. Should NATIONAL grant to another party a license under said Patent No. 2,032,827 on a lower royalty basis than that hereinbefore specified, then DU PONT shall be entitled to make its further royalty payments on such lower royalty basis from and after the effective date when said lower royalty basis takes effect for the other party. It is also agreed that in the event NATIONAL'S license under said Patent No. 2,032,827 shall become non-exclusive and INTERNATIONAL pursuant to the terms of said agreement of April 10, 1939, shall notify NATIONAL that it has granted a bona fide license to a responsible party within the licensed field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payments of NATIONAL and its sub-licensees under said agreement, then DU PONT shall be obligated to pay royalties hereunder in pursuance of Section 3 hereof, at the same rate as that which may be specified therefor in such other bona fide agreement; and provided, further, that in the event INTERNATIONAL shall grant a non-exclusive license at a royalty rate lower than that specified in Section 3 hereof,

then DU PONT shall thereafter be obligated to pay royalties hereunder only at such lower rate.

5. It is understood and agreed that title to all Micronizer Reduction Mills which DU PONT shall acquire pursuant to this license shall be retained by INTERNATIONAL, such Micronizers to be considered as leased to DU PONT, which lease shall be co-temporaneous with the period of this license and upon the expiration thereof, or in the event that a Court of competent and final jurisdiction, from which no appeal is or can be taken, shall declare said Patent No. 2,032,827 is invalid, the title to any Micronizer Reduction Mills under lease to DU PONT shall thereupon at once pass to DU PONT, together with title to any improvements thereon made by DU PONT; provided, however, that if this license agreement shall be otherwise terminated, as provided in Section 10 hereof, any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to INTERNATIONAL, together with title to any improvements made by DU PONT: it being understood for the purpose of this Section that should DU PONT be then using, in connection with the Micronizer Reduction Mill described and/or claimed in said Patent No. 2,032,827, any improvement covered by subsequent United States letters patents included in the license herein granted, such use shall not operate to prolong vesture of title to the said Mills in INTERNATIONAL beyond the expiration of this license, but title to any improvements shall remain in INTERNATIONAL.

6. It is understood and agreed that Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership thereof in INTERNATIONAL,

which said marker shall not be removed by DU PONT. DU PONT will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed to it hereunder unless it shall have acquired title thereto in accordance with the provisions of this agreement.

7. The parties hereto agree to place at the disposal of each other all information and data which either may secure from time to time in reference to the operation and construction of the licensed micronizer reduction mills. DU PONT shall also be obligated to furnish such information and data respecting said Mills which it shall develop to INTERNATIONAL; provided, however, that there shall be no obligation on the part of DU PONT to furnish information or data to INTERNATIONAL regarding the licensed materials processed which may be in the nature of trade or manufacturing secrets.

8. The parties hereto, through their duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which either may install in pursuance of this or said agreement of April 10, 1939. DU PONT also agrees that INTERNATIONAL, through its duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which DU PONT shall install in pursuance of this agreement.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by DU PONT relative to the patented invention described and/or

claimed in the said United States Patent No. 2,032,827, or the subject matter claimed in any subsequent United States letters patent under which DU PONT shall have a license pursuant to this agreement, shall belong to and be assigned to INTERNATIONAL, both as to the United States and any foreign country where INTERNATIONAL may desire patent protection, provided INTERNATIONAL shall, within ninety (90) days from the submission of any such invention or discovery to it by DU PONT, notify DU PONT, in writing, that it so elects to acquire said inventions or discoveries; otherwise, title to such inventions or discoveries shall become vested in DU PONT. In the event of such election and preparation, filing and prosecution of any patent application by INTERNATIONAL on said inventions or discoveries, the costs and expenses therefor shall be borne by INTERNATIONAL; provided, however, that the provisions of this Section as to foreign patents shall be subject to any present contractual commitments on the part of DU PONT which, at the request in writing of INTERNATIONAL shall be certified to INTERNATIONAL when the question of filing any such foreign patent application shall arise; and provided, further, that DU PONT shall enjoy after the termination of this license for any reason the free right of use of any and all improvements made by DU PONT or NATIONAL, whether the same be patented or unpatented.

10. If DU PONT shall fail to comply with the obligation herein undertaken and shall continue in such failure for thirty days after written notice from INTERNATIONAL of its default, then NATIONAL may terminate this license agreement, in which event INTERNATIONAL shall become repos-

sessed of the Micronizer Reduction Mills licensed hereunder. DU PONT may cancel this agreement for any reason at any time upon three (3) months' written notice to NATIONAL and INTERNATIONAL, in which event DU PONT shall be obligated to pay only such royalties as have accrued at the rate above specified to the date of termination of the agreement. It is expressly understood for the purpose of this Section that if said Patent No. 2,032,827 shall be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken, all royalty payments herein shall immediately cease and determine and the rate of royalty to be paid by DU PONT hereunder for the use of any other patent under which, in accordance with this agreement, it may enjoy a license, shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

11. This agreement shall inure to the benefit of the parties hereto, their successors and assigns, of substantially the entire business relating to the licensed subject matter, and shall not otherwise be assignable.

12. This written license contract embodies all the understandings and agreements between the parties concerning the licensed subject matter, there being no other previous or contemporaneous understandings or agreements, oral or written, between the present parties on the foregoing subject.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed in duplicate by their respective and duly authorized officers and their respective corporate

seals to be hereunto affixed on the day and year above written.

NATIONAL LEAD COMPANY,

By (s) FLETCHER W. ROCKWELL
President

ATTEST:

(s) H. O. BATES
Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Manager, Krebs Pigments Department

ATTEST:

(s) E. A. HOWARD
Assistant Secretary

C.H.B.

Form Approved
Legal Department
H. C. Haskell
Asst. Director

Exhibit P-2

AGREEMENT

This agreement, made and entered into this 19th day of December, 1940 by and between NATIONAL LEAD COMPANY, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at 111 Broadway in the City and State of New York (hereinafter referred to as NATIONAL) and AMERICAN ZIRCONIUM CORPORATION, a corporation organized and existing under the laws of the State of Maryland, having its principal place of business at Baltimore, Maryland (hereinafter referred to as AMERICAN).

WITNESSETH THAT,

WHEREAS, INTERNATIONAL PULVERIZING CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, having its principal place of business at Moorestown, New Jersey, (hereinafter referred to as INTERNATIONAL) is the owner of the entire right, title and interest in and to a certain United States Letters Patent No. 2,032,827, dated March 3, 1936, for a Micronizer Reduction Mill, and

WHEREAS, pursuant to an agreement dated April 10th, 1939 between INTERNATIONAL and NATIONAL, the latter has become possessed of certain limited, exclusive rights to use together with the right to sub-license others to use non-exclusively the inventions described and/or claimed in said Letters Patent No. 2,032,827, or any reissue thereof, and

Exhibit P-2

WHEREAS, under said agreement of April 10th, 1939 INTERNATIONAL covenants and agrees to grant and accord to any sub-licensee of NATIONAL thereunder the same rights, benefits, privileges and immunities which INTERNATIONAL grants to NATIONAL thereunder, and

WHEREAS, AMERICAN desires to obtain and NATIONAL is willing to grant a non-exclusive license to use said Micronizer and employ the methods described and/or claimed in said letters patent or any reissue thereof, throughout the United States of America and AMERICAN desires to acquire all benefits, privileges and immunities which may be conferred on a sub-licensee pursuant to said agreement with INTERNATIONAL dated April 10, 1939.

NOW, THEREFORE, in consideration of the mutual benefits flowing from each party to the other and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of the mutual promises, covenants and undertakings herein set forth and to be duly kept and performed, it is mutually agreed as follows:

1. NATIONAL hereby grants to AMERICAN throughout the United States of America a non-exclusive license under United States Letters Patent No. 2,032,827, for a Micronizer Reduction Mill, or any reissue thereof, and under any and all present and future pending applications for United States letters patent, or letters patent or reissue thereof, in reference to the subject matter of said Patent No. 2,032,827, which NATIONAL may now possess or which throughout the term of this license it may acquire, or under which it may become entitled to grant licenses under said

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agreement of April 10, 1939, to use said Micronizer and the inventions described and/or claimed in said Letters Patent No. 2,032,827 for the processing of titanium pigments (including titanated lithopone) and titaniferous ores in the production of titanium pigments and for processing of such other materials as the parties hereto, in writing, may agree upon from time to time. The license herein granted shall continue until the expiration of said Letters Patent No. 2,032,827 or any reissue thereof, provided, however, that if upon such expiration there shall be in existence any United States letters patent under which a license has been granted hereunder, AMERICAN, at its election, may retain said license but at a royalty per ton to be agreed upon, but in no event to exceed the royalty herein provided for. NATIONAL furthermore hereby grants, but without itself guaranteeing the performance thereof of INTERNATIONAL, to AMERICAN all the rights, benefits, privileges and immunities which are provided and granted for a sub-licensee of NATIONAL pursuant to the terms of the aforesaid contract of April 10, 1939 between NATIONAL and INTERNATIONAL, including particularly the provisions of Sections 1, 2 and 11 therein.

2. AMERICAN agrees that during the period of this license it will not contest in any manner the validity of any patent under which it is sub-licensed hereunder and that it will exercise all reasonable efforts to use the Micronizer Reduction Mills, to extend their uses, and to make improvements in their operation and construction.

3. Commencing as of July 1, 1940 AMERICAN agrees to pay and remit directly to INTERNATIONAL, as a royalty hereunder, for all properly ground, good titanium pigments

Exhibit P-2

and titaniferous ores used in the production of such pigments processed in the licensed Micronizers, fifty cents (50¢) per ton (of 2,000 pounds and on a dry basis) for the first 4,000 tons, and twenty-five cents (25¢) for each ton over 4,000 tons in any accounting year; said royalty to be computed and based upon the aggregate tonnage of licensed materials which NATIONAL and AMERICAN, and/or any other sub-licensee or sub-licensees of NATIONAL shall process in said Micronizers in pursuance of said agreement of April 10, 1939, between INTERNATIONAL and NATIONAL. In order that AMERICAN may correctly arrive at any royalties due from it in pursuance of this section, NATIONAL agrees to promptly furnish AMERICAN, prior to the due date of any such royalties, with quarterly statements showing the tonnage of micronized licensed materials which NATIONAL and/or its other sub-licensees shall have processed during the preceding quarter in each accounting year; and AMERICAN likewise agrees to furnish NATIONAL with similar quarterly statements showing the tonnage of micronized licensed material which AMERICAN shall so process.

The royalties herein provided for shall be computed quarterly as of the first day of July, October, January and April, for the preceding quarter, and the net production of properly ground, good material which shall have been processed by AMERICAN in any Micronizer Reduction Mill in accordance with the license herein granted during each quarter, shall be reported directly to INTERNATIONAL, accompanied by a check payable to INTERNATIONAL for the royalty due thereon, not later than thirty (30) days after the end of the quarter to which such report relates. A copy of any such quarterly report shall be concurrently forwarded by AMERICAN to NATIONAL.

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AMERICAN agrees to keep separate and accurate books of account and records with respect to all properly ground, good material which it shall process in accordance with this license in the licensed Micronizers; such accounts and records to be in sufficient detail to enable INTERNATIONAL to determine the royalties payable hereunder. AMERICAN, from time to time, during business hours, and to the extent required to verify the records herein provided for, shall permit its books and records to be examined by INTERNATIONAL'S authorized agent or officers.

4. Should NATIONAL grant to another party a license under said Patent No. 2,032,827 on a lower royalty basis than that hereinbefore specified, then AMERICAN shall be entitled to make its further royalty payments on such lower royalty basis from and after the effective date when said lower royalty basis takes effect for the other party. It is also agreed that in the event NATIONAL'S license under said Patent No. 2,032,827 shall become non-exclusive and INTERNATIONAL, pursuant to the terms of said agreement of April 10, 1939, shall notify NATIONAL that it has granted a bona fide license to a responsible party within the licensed field of this agreement at a higher rate of royalty which in the aggregate will yield and does yield a return as great or greater than the yearly total dollar royalty payments of NATIONAL and its sub-licensees under said agreement, then AMERICAN shall be obligated to pay royalties hereunder in pursuance of Section 3 hereof, at the same rate as that which may be specified therefor in such other bona fide agreement; and provided, further, that in the event INTERNATIONAL shall grant a non-exclusive license at a royalty rate lower than that specified in Section 3 hereof,

then AMERICAN shall thereafter be obligated to pay royalties hereunder only at such lower rate.

5. It is understood and agreed that title to all Micronizer Reduction Mills which AMERICAN shall acquire pursuant to this license shall be retained by INTERNATIONAL, such Micronizers to be considered as leased to AMERICAN, which lease shall be co-temporaneous with the period of this license and upon the expiration thereof, or in the event that a Court of competent and final jurisdiction, from which no appeal is or can be taken, shall declare said Patent No. 2,032,827 is invalid, the title to any Micronizer Reduction Mills under lease to AMERICAN shall thereupon at once pass to AMERICAN, together with title to any improvements thereon by AMERICAN; provided, however, that if this license agreement shall be otherwise terminated, as provided in Section 10 hereof, any and all Micronizer Reduction Mills covered by the terminated license shall be delivered to INTERNATIONAL, together with title to any improvements made by AMERICAN: it being understood for the purpose of this Section that should AMERICAN be then using, in connection with the Micronizer Reduction Mill described and/or claimed in said Patent No. 2,032,827, any improvement covered by subsequent United States letters patents included in the license herein granted, such use shall not operate to prolong vesture of title to the said mills in INTERNATIONAL beyond the expiration of this license, but title to any improvements shall remain in INTERNATIONAL.

6. It is understood and agreed that Micronizer Reduction Mills licensed hereunder shall have a marker placed thereon showing ownership thereof in INTERNATIONAL,

which said marker shall not be removed by AMERICAN. AMERICAN will not hold itself out to any person as being the owner of any Micronizer Reduction Mill licensed to it hereunder, unless it shall have acquired title thereto in accordance with the provisions of this agreement.

7. It is agreed that AMERICAN shall place at the disposal of INTERNATIONAL all information and data which it may develop from time to time in reference to the operation and construction of the licensed Micronizer Reduction Mills; provided, however, that there shall be no obligation on the part of AMERICAN to furnish information or data to INTERNATIONAL regarding the licensed materials processed which may be in the nature of trade or manufacturing secrets.

8. It is agreed that INTERNATIONAL, through its duly accredited and authorized representatives, shall have the right at any time and during usual business hours to inspect any Micronizer Reduction Mill which AMERICAN shall install in pursuance of this agreement.

9. All inventions and discoveries of a patentable nature which may be made during the term of this license by AMERICAN relative to the patented invention described and/or claimed in the said United States Patent No. 2,032,827, or the subject matter claimed in any subsequent United States letters patent under which AMERICAN shall have a license pursuant to this agreement, shall belong to and be assigned to INTERNATIONAL, both as to the United States and any foreign country where INTERNATIONAL may desire patent protection, provided INTERNATIONAL shall, within ninety (90) days from the submission of any such invention or discovery to it by AMERICAN, notify AMERI-

CAN, in writing, that it so elects to acquire said inventions or discoveries; otherwise, title to such inventions or discoveries shall become vested in AMERICAN. In the event of such election and preparation, filing and prosecution of any patent application by INTERNATIONAL on said inventions or discoveries, the costs and expenses therefor shall be borne by INTERNATIONAL; provided, however, that the provisions of this Section as to foreign patents shall be subject to any present contractual commitments on the part of AMERICAN which, at the request in writing of INTERNATIONAL shall be certified to INTERNATIONAL when the question of filing any such foreign patent application shall arise; and provided, further, that AMERICAN shall enjoy after the termination of this license for any reason the free right of use of any and all improvements made by AMERICAN or NATIONAL, whether the same be patented or unpatented.

10. If AMERICAN shall fail to comply with the obligations herein undertaken and shall continue in such failure for thirty days after written notice from INTERNATIONAL of its default, then NATIONAL may terminate this license agreement, in which event INTERNATIONAL shall become repossessed of the Micronizer Reduction Mills licensed hereunder. AMERICAN may cancel this agreement for any reason at any time upon three (3) months' written notice to NATIONAL and INTERNATIONAL, in which event AMERICAN shall be obligated to pay only such royalties as have accrued at the rate above specified to the date of termination of the agreement. It is expressly understood for the purpose of this Section that if said Patent No. 2,032,827 shall be judicially declared invalid by a Court of competent and final jurisdiction from which no appeal is or can be taken, all royalty payments herein shall immediately cease and de-

termine and the rate of royalty to be paid by AMERICAN hereunder for the use of any other patent under which, in accordance with this agreement, it may enjoy a license, shall be made the subject of negotiations between the parties hereto, but in no event to exceed the royalty herein specified.

11. This agreement shall inure to the benefit of the parties hereto, their successors and assigns, of substantially the entire business relating to the licensed subject matter, and shall not otherwise be assignable.

12. This written license contract embodies all the understandings and agreements between the parties concerning the licensed subject matter, there being no other previous or contemporaneous understandings or agreements, oral or written, between the present parties on the foregoing subject.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed in duplicate by their respective and duly authorized officers and their respective corporate seals to be hereunto affixed on the day and year above written.

NATIONAL LEAD COMPANY
By FLETCHER W. ROCKWELL
President

ATTEST:
H O BATES, Secy.

AMERICAN ZIRCONIUM CORPORATION
By ADRIAN D. JOYCE

ATTEST:
CLIFTON M. KOLB
Asst. Sec.

Exhibit Q

LICENSE AGREEMENT

This agreement, made and entered into this 21st day of April, 1939, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor, to-wit:

(a) Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate, Serial No. 17,379, filed April 20, 1935;

(b) Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same, Serial No. 136,584, filed April 23, 1937; 8 CBR

(c) Application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids, Serial No. 147,485, filed June 10, 1937;

(d) Application (754-K) of D. H. Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium Serial No. 26,790, filed June 15, 1935; (Now Pat. 2,127,247, dated August 16, 1938)

(e) Application (768-K) of W. W. Heckert, for Process for Producing Calcium Sulfate, Serial No. 145,051, filed May 27, 1937;

(f) Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937;

(g) Application (K-830-A) of A.M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments, Serial No. 155,231, filed July 23, 1937

(h) Application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same, Serial No. 138,583, filed April 23, 1937;

(i) Application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same, Serial No. 139,497, filed April 28, 1937;

(j) Application (868-½-K) of J. E. Booge for Water Dispersing Titanium Pigments, Serial No. 145,930, filed June 2, 1937;

(k) Application (871-K) of R. L. McCleary for Water-Insensitive Hydrophillic Pigments, Serial No. 144,759, filed May 25, 1937;

(l) Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments, Serial No. 146,541, filed June 5, 1937;

and has filed corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as follows, to-wit:

(a) In France:

Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate;

Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate;

Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments;

Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments;

Application (K-830-A) of A. M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments

(b) In Great Britain:

Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate;

Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments

(c) In Holland:

Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same

(d) In Germany and Japan:

Application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same;

Application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids;

Application (754-K) of D. H. Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium;

Application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same;

Application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same;

Application (868½-K) of J. E. Booge for Water Dispersing Titanium Pigments;

Application (871-K) of R. L. McCleary for Water Insensitive Hydrophillic Pigments

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the designated foreign country or countries in which said applications shall be respectively filed; and

Exhibit Q

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

1. Application (Case T.120) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 33,383, filed July 26, 1935;

2. Application (Case T.125-C) of Paul Weise, et al. for Preparation of Titanium Oxygen Compounds, Serial No. 136,502, filed April 12, 1937;

3. Patent No. 2,118,916 (Case T.126-B) dated May 31, 1938, to Julius Drucker for Titanium-Containing Pigments;

4. Application (Case T.155) of Karl W. Patersen for Titanium Dioxide Pigments, Serial No. 119,625, filed January 8, 1937;

5. Application (Case T.157) of Ekbert Lederle, et al. for White Pigments, Serial No. 137,494, filed April 17, 1937;

6. Application (Case T.170) of Georg Meder, for Titanium Pigments, Serial No. 137,044, filed April 15, 1937 (Now Patent No. 2,138,384);

7. Patent No. 2,111,460 (Case T.112), dated March 15, 1938, for Alkali Metal Titanates, to Joachim Rockstroh;

8. Application (Case T.115) of Ekbert Lederle, et al. for White Pigments, Serial No. 11,164, filed March 14, 1935;

9. Application (Case T.115-B) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,918, filed May 15, 1937;

10. Application (Case T.115-C) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,928, filed May 15, 1937;

11. Application (Case T.136) of Pierre Lusseyran for Pigment Suspensions and Methods of Preparing Same, Serial No. 88,851, filed July 3, 1936;

12. Application (Case T.165) of Robert W. Ancrum, et al. for Manufacture of Titanium Pigments, Serial No. 155,040, filed July 22, 1937

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said letters patent and/or applications, or in any letters patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right

Exhibit Q

and license under the following foreign letters patent and/or applications therefor, to-wit:

(1) Throughout France:

(a) French application corresponding to U.S. Application (466-K) of Roy W. Sullivan for Process of Making Calcium Sulfate, Serial No. 17,379, filed April 20, 1935;

(b) French application corresponding to U.S. Application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate, Serial No. 145,061, filed May 27, 1937 (Now French Patent No. 838,478);

(c) French application corresponding to U.S. Application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937;

(d) French application corresponding to U.S. Application (872-K) of R. M. McKinney for Treatment of Titanium Pigments, Serial No. 146,541, filed June 5, 1937;

(e) French application corresponding to U.S. Application (K-830-A) of A. M. Erskine for Titanium and Zirconium Hydrate Treated TiO_2 Pigments, Serial No. 155,231 filed July 23, 1937

(2) Throughout the United Kingdom of Great Britain, Ireland and the Isle of Man:

Exhibit Q

(a) British application corresponding to U.S. application (768-K) of W. W. Heckert for Process for Producing Calcium Sulfate, Serial No. 145,051, filed May 27, 1937;

(b) British application corresponding to U.S. application (769-K) of M. L. Hanahan and R. A. Gagnon for Process for Producing Blended Pigments, Serial No. 145,044, filed May 27, 1937.

(3) Throughout Holland:

(a) Dutch application corresponding to U.S. application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process of Producing Same, Serial No. 138,584, filed April 23, 1937

(4) Throughout Germany and Japan:

(a) German and Japanese applications corresponding to U.S. application (632-K) of Gordon D. Patterson for Titanium Oxide Pigments and Process for Producing Same, Serial No. 138,584, filed April 23, 1937;

(b) German and Japanese applications corresponding to U.S. application (634-K) of Gordon D. Patterson for Titanium Pigments Containing Water-Soluble Salts of Organic Acids, Serial No. 147,485, filed June 10, 1937;

(c) German and Japanese applications corresponding to U.S. application (754-K) of D. H.

Exhibit Q

Dawson, I. J. Krchma and R. M. McKinney, for Preparation of Compounds of Titanium, Serial No. 26,790, filed June 15, 1935;

(d) German and Japanese application corresponding to U.S. application (834-K) of M. L. Hanahan and R. M. McKinney for Titanium Pigments and Process for Producing Same, Serial No. 138,583, filed April 23, 1937;

(e) German and Japanese application corresponding to U.S. application (K-834-B) of W. H. Madson for Titanium Pigments and Process for Producing the Same, Serial No. 139,497, filed April 28, 1937;

(f) German and Japanese applications corresponding to U.S. application (868½-K) of J. E. Booge for Water-Dispersing Titanium Pigments, Serial No. 145,930, filed June 2, 1937;

(g) German and Japanese applications corresponding to U.S. application (871-K) of R. L. McCleary for Water-Insensitive Hydrophillic Pigments, Serial No. 144,759, filed May 25, 1937.

to practice any process and to make, use and/or sell any products described or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application

Exhibit Q

and the existence of any letters patent, prolongations or extensions which may issue thereon; provided, however, that in respect to applications 466-K of Sullivan and 768-K of Heckert aforesaid, the rights of TITAN hereunder shall be limited and restricted to the employment of the inventions of said 466-K and 768-K applications in the manufacture of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States letters patent and/or applications therefore, to-wit:

1. Application (Case T.120) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 33,383, filed July 26, 1935;

2. Application (Case T.125-C) of Paul Weise, et al. for Preparation of Titanium Oxygen Compounds, Serial No. 136,502, filed April 12, 1937;

3. Patent No. 2,118,916 (Case T.126-B) dated May 31, 1938, to Julius Drucker for Titanium-Containing Pigments;

4. Application (Case T.155) of Karl W. Petersen for Titanium Dioxide Pigments, Serial No. 119,625, filed January 8, 1937;

5. Application (Case T.157) of Ekbert Lederle, et al. for White Pigments, Serial No. 137,494 filed April 17, 1937;

Exhibit Q

6. Application (Case T.170) of Georg Meder, for Titanium Pigments, Serial No. 137,044, filed April 15, 1937;

7. Patent No. 2,111,460 (Case T.112), dated March 15, 1938, for Alkali Metal Titanates, to Joachim Rockstroh;

8. Application (Case T.115) of Ekbert Lederle, et al. for White Pigments, Serial No. 11,164, filed March 14, 1935;

9. Application (Case T.115-B) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,918, filed May 15, 1937;

10. Application (Case T.115-C) of Ekbert Lederle, et al. for White Pigments, Serial No. 142,928, filed May 15, 1937;

11. Application (Case T. 136) of Pierre Lusseyran for Pigment Suspensions and Methods of Preparing Same, Serial No. 88,851, filed July 3, 1936;

12. Application (Case T.165) of Robert W. Ancrum, et al. for Manufacture of Titanium Pigments, Serial No. 155,040, filed July 22, 1937

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said letters patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said letters patent and/or applications or any patent or reissue which may be subsequently granted thereunder; provided, however, that in respect to Cases T.112 of Rockstroh and T.136 of Lusseyran aforesaid, the rights of DU PONT hereunder shall

be limited and restricted to the employment of the inventions of said T.112 and T.136 cases in the manufacture of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products in accordance with any of said licensed inventions.

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its controlled subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) British Titan Products Co., Billingham, England

(2) Societe Industrielle du Titane, Paris, France

(3) Titangesellschaft m.b.H., Leverkusen, Germany

(4) Titan Kogyo Kabushiki Kaisha, Kobe, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sublicenses to any other person, firm, company or corporation.

Exhibit Q

5. In the event TITAN shall grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any of said applications or of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision to abandon, and within ample time to permit DU PONT to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States applications in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-involved

letters patent of the other or any letters patent which may issue as a result of the herein involved applications; and each agrees not to directly or indirectly contest the validity of said letters patent or to assist others in any infringing operation, but as far as reasonably possible, agree to assist each other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted, nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said inventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share

the expenses thereof; provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

ATTEST: By (s) G. JEBSEN, Vice-President

(s) C. F. KAEGEBEHN
Asst. Sec'y.

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) M. D. FISHER
Asst. Sec'y.

Exhibit R

LICENSE AGREEMENT

This agreement, made and entered into this 10th day of May, 1940, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor; to-wit:

(a) Application (738-K) of Ray L. McCleary for Procedure for Treating Residual Sulfuric Acid Liquors, Serial No. 183,127, filed January 3, 1938;

(b) Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(c) Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

Exhibit R

(d) Application (882-K) of Roy W. Sullivan for Calcium Sulfate Pigments, Serial No. 166,564, filed September 30, 1937 (Now Pat. 2,163,385, dated June 20, 1939);

(e) Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937 (Now Pat. 2,150,236 dated March 14, 1939);

(f) Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(g) Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(h) Application (892-K) of Roy W. Sullivan for Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(i) Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(j) Application (894-K) of M. L. Hanahan and James D. Prince for Pigment Milling Process, Serial No. 192,314, filed February 24, 1938;

(k) Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

Exhibit R

(m) Application (905-K) of James E. Booge for Preparation of Titanium Concentrates, Serial No. 200,748, filed April 7, 1938;

and has filed corresponding applications for letters patent on said inventions in certain countries foreign to the United States, as will more particularly appear in Section 1 hereof;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the hereinafter designated foreign country or countries in which said applications shall be respectively filed; and

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

1. Application (Case T-187) of Tillman, et al., Serial No. 204,838, filed April 28, 1938,

2. Application (Case T-227) of Tillman, et al., Serial No. 238,358, filed November 2, 1938,

3. Application (Case T-208) of Robert W. Ancrum and Assur Gjessing Oppegaard, Serial No. 228,326, filed September 3, 1938, for Methods of Dispersing Titanium Dioxide Pigments;

4. Application (Case T-232) of George F. New, Serial No. 247, 843, filed December 27, 1938,

Exhibit R

5. Patent No. 1,539,996 (Case T-37) dated June 2, 1925, to Peder Farup, for Process of Recovering Titanic Oxide from Titanium Nitrogen Compounds;

6. Patent No. 1,919,425 (Case T-42), dated July 25, 1933, to Peder Farup, for Process for Dissolving Titaniferous Materials in Acids;

7. Patent No. 2,055,221 (Case T-82), dated September 22, 1936, to Andreas Johan Ravnestad, for Process of Producing Titanium Pigments.

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said letters patent and/or applications, or in any letters patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable considerations, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right and license under the following foreign letters patent and/or applications therefor, to-wit:

Exhibit R

(1) Throughout France:

(a) French application corresponding to U.S. Application (738-K) of Ray L. McCleary for Procedure for Treating Residual Sulfuric Acid Liquors, Serial No. 183,127, filed January 3, 1938;

(b) French application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(c) French application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(d) French application corresponding to U.S. Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(e) French application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(f) French application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(g) French application corresponding to U.S. Application (894-K) of M. L. Hanahan and

James D. Prince for Pigment Milling Process, Serial No. 192,314, filed February 24, 1938;

(h) French application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(2) Throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man:

(a) British application corresponding to U.S. Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

(b) British application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(c) British application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937.

(d) British application corresponding to U. S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(3) Throughout Holland:

(a) Dutch application corresponding to U.S. Application (873-K) of Roy W. Sullivan for

Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(b) Dutch application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(4) Throughout Germany:

(a) German application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(b) German application corresponding to U.S. Application (885-K) of Roy W. Sullivan for Stabilization of Soluble Crystalline Materials, Serial No. 183,322, filed January 4, 1938;

(c) German application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(d) German application corresponding to U.S. Application (892-K) of Roy W. Sullivan for Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(e) German application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(f) German application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(5) Throughout Japan:

(a) Japanese application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(b) Japanese application corresponding to U.S. Application (876-K) of Robert K. Whitten for Process for Production of Improved Titanium Pigments, Serial No. 166,943, filed October 2, 1937;

(c) Japanese application corresponding to U.S. Application (882-K) of Roy W. Sullivan for Calcium Sulfate Pigments, Serial No. 166,564, filed September 30, 1937;

(d) Japanese application corresponding to U.S. Application (884-K) of Robert M. McKinney for Process for Making Titanium Pigments, Serial No. 172,378, filed November 2, 1937;

(e) Japanese application corresponding to U.S. Application (K-885-A) of George L. Schwartz for Dispersible Pigments, Serial No. 183,311, filed January 4, 1938;

(f) Japanese application corresponding to U.S. Application (892-K) of Roy W. Sullivan for

Pigment Materials and Process of Producing, Serial No. 211,797, filed June 4, 1938;

(g) Japanese application corresponding to U.S. Application (893-K) of Charles R. Hager for Titanium Oxide Pigments and Process of Producing Same, Serial No. 181,990, filed December 27, 1937;

(h) Japanese application corresponding to U.S. Application (898-K) of Robert M. McKinney for Pigment Treating Process and Agents Therefor, Serial No. 191,967, filed February 23, 1938;

(i) Japanese application corresponding to U.S. Application (899-K) of Louis C. Eckels for Production of Titanium Pigments, Serial No. 198,899, filed March 30, 1938;

(j) Japanese application corresponding to U.S. Application (905-K) of James E. Booge for Preparation of Titanium Concentrates, Serial No. 200,748, filed April 7, 1938;

(6) Throughout Italy:

(a) Italian application corresponding to U.S. Application (873-K) of Roy W. Sullivan for Process for Making Anhydrite, Serial No. 177,739, filed December 2, 1937;

(7) Throughout Belgium:

(a) Belgian application corresponding to U.S. Application (873-K) of Roy W. Sullivan for

Exhibit R

Process for Making Anhydrite, Serial No. 177,379, filed December 2, 1937

to practice any process and to make, use and/or sell any products described or claimed in said applications or any letters patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application and the existence of any letters patent, prolongations or extensions which may issue thereon; provided, however, that in respect to the aforesaid applications of Sullivan K-873, K-882, K-885, K-892; Schwartz K-885-A; Eckels K-899; McKinney K-898; and Booge K-905, the rights granted TITAN hereunder shall be limited and restricted to the use of the inventions involved in said applications K-873, K-882, K-885, K-885-A, K-892, K-898, K-899 and K-905, in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States letters patent and/or applications therefor, to-wit:

Exhibit R

1. Application (Case T-187) of Tillman, et al., Serial No. 204,838, filed April 28, 1938, for Process for the Preparation of Titanium Dioxide;
2. Application (Case T-227) of Tillman, et al., Serial No. 238,358, filed November 2, 1938, for Process for the Manufacture of Titanium Dioxide;
3. Application (Case T-208) of Robert W. Ancrum and Assur Gjessing Oppegaard, Serial No. 228,326, filed September 3, 1938, for Methods of Dispersing Titanium Dioxide Pigments;
4. Application (Case T-232) of George F. New, Serial No. 247,843, filed December 27, 1938, for Preparation of Chalk Resistant Titanium Dioxide Pigment;
5. Patent No. 1,539,996 (Case T-37) dated June 2, 1925, to Peder Farup, for Process of Recovering Titanic Oxide from Titanium Nitrogen Compounds;
6. Patent No. 1,919,425 (Case T-42) dated July 25, 1933, to Peder Farup, for Process for Dissolving Titaniferous Materials in Acids;
7. Patent No. 2,055,221 (Case T-82) dated September 22, 1936, to Andreas Johan Ravnestad, for Process of Producing Titanium Pigments

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said letters patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said letters patent and/or applications or any patent or reissue which

may be subsequently granted thereunder, provided, however, that in respect of the aforesaid applications of Tillman Case T-187 and T-227 aforesaid patents of Farup Case T-37 and Case T-42 and aforesaid patent of Ravnestad Case T-82 the rights granted Du Pont hereunder shall be restricted to the use of the inventions involved in said applications T-187, T-227 and said patents T-37, T-42 and T-82 in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any letters patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any letters patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) British Titan Products Co., Billingham, England,

(2) Société Industrielle du Titane, Paris, France,

(3) Titangesellschaft m.b.H., Leverkusen, Germany,

(4) Titan Kogyo Kabushiki Kaisha, Kobe, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sub-licenses to any other person, firm, company or corporation.

5. In the event TITAN shall, provided DU PONT consents, grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sub-license or sub-licenses. The royalties so accruing shall be payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for letters patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any letters patent issuing as a result of the filing of said applications. TITAN also agrees that it will not permit the abandonment of any of said applications or of any letters patent which may issue as a result of the filing of said applications, and in the event TITAN shall desire to abandon any such application and/or issued letters patent, it will, prior to actual abandonment, promptly notify DU PONT of its decision

to abandon, and within ample time to permit DU PONT to take over the prosecution of said applications and to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States application in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-involved letters patent of the other; and each hereby releases the other from any and all liability for infringement of such letters patent arising previous to this agreement. Further, each agrees not to directly or indirectly contest the validity of said letters patent or to assist others in any infringing operation, but as far as reasonably possible, agrees to assist the other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted, nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid letters patent or any letters patent which may issue as a result of said in-

ventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share the expenses thereof; provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. For the purpose of this instrument, a subsidiary of either party hereto is defined as a company in which said party owns more than fifty per cent (50%) of the subsidiary stock which is entitled to vote for directors.

Exhibit R

13. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

By (s) G. JEBSEN
Vice President

ATTEST:

(s) C. F. KAEGEBEHN
Asst. Sec'y

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) M. D. FISHER
Asst. Sec'y

Form Approved

Legal Department

(S) H. C. HASKELL
Asst. Director

Exhibit S

LICENSE AGREEMENT

This agreement, made and entered into this 23rd day of June, 1941, by and between E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter referred to as DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having its principal place of business at Wilmington, Delaware, and TITAN COMPANY, INC. (hereinafter referred to as TITAN), a corporation organized and existing under and by virtue of the laws of the State of Delaware, having its principal place of business in the city and state of New York;

WITNESSETH THAT

WHEREAS, DU PONT is the owner of the entire right, title and interest in and to certain inventions more particularly described in the following United States Letters Patent and pending applications therefor, to-wit:

(a) Application (689-K) of Winfield W. Heckert for Glue Treatment of Calcium Sulfate, Serial No. 225,716, filed August 19, 1938.

(b) Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(c) Application (900-K) of James H. Peterson for Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(d) Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(e) Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(f) Application (915-K) of Holger H. Schaumann for Oxidation Treatment of Tinted Titanium Oxide, Serial No. 228,403, filed September 3, 1938.

(g) Application (917-K) of Ignace J. Krchma for Process for Production of Titanium Solutions, Serial No. 233,749, filed October 7, 1938.

and has filed corresponding applications for Letters Patent on said inventions in certain countries foreign to the United States, as will more particularly appear in Section 1 hereof;

WHEREAS, TITAN desires to obtain and DU PONT is willing to grant an exclusive (except as herein limited), non-assignable, royalty-free license to practice the inventions, and to manufacture, use and/or sell the products described or claimed in said applications, or any letters patent which may subsequently issue thereon, throughout the hereinafter designated foreign country or countries in which said applications shall be respectively filed; and

WHEREAS, TITAN warrants that it has the right to grant the licenses hereinafter set forth under the following United States patents and applications therefor, to-wit:

Exhibit S

1. Application of A. J. Oppegaard et al., for Manufacture of Titanium Dioxide Pigments, Serial No. 277,870, filed June 7, 1939.

2. Application of F. Raspe and R. W. Ancrum, for Titanium Dioxide Pigment and Printing Inks Containing Same, Serial No. 283,986, filed July 12, 1939.

3. Application of Herman Giese, for Methods of Making Improved Titanium Dioxide Pigments, Serial No. 300,004, filed October 18, 1939.

4. Patent No. 1,852,510, dated April 5, 1932, to Peder Farup, for Process of Treating Titaniferous Materials with Acids

WHEREAS, DU PONT desires to obtain and TITAN is willing to grant a non-exclusive, non-assignable, royalty-free license to practice, throughout the United States of America, its territories and dependencies, the inventions, and to manufacture, use and/or sell the products described or claimed in said Letters Patent which may subsequently issue as a result of any of said applications;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and of other good and valuable consideration, the receipt whereof is hereby acknowledged, and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. DU PONT hereby grants to TITAN an exclusive (except as herein limited), royalty-free, non-assignable right

and license in the following countries and under the following foreign applications for Letters Patent, to-wit:

(1) Throughout France:

(a) French application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(b) French application corresponding to U.S. Application (900-K) of James H. Peterson for Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(c) French application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(d) French application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(2) Throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man:

(a) British application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(b) British application corresponding to U.S. Application (900-K) of James H. Peterson, for

Exhibit S

Process of Preparing Alkaline Earth Metal Titanates, Serial No. 213,835, filed June 15, 1938.

(c) British application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(3) Throughout Germany:

(a) German application corresponding to U.S. Application (689-K) of Winfield W. Heckert for Glue Treatment of Calcium Sulfate, Serial No. 225,716, filed August 19, 1938.

(b) German application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(c) German application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,601, filed July 16, 1938.

(4) Throughout Italy:

(a) Italian application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,218, filed June 22, 1938.

(5) Throughout Holland:

(a) Dutch application corresponding to U.S. Application (888-K) of James E. Booge for Ti-

tanium Pigment Production, Serial No. 215,-218, filed June 22, 1938.

(b) Dutch application corresponding to U.S. Application (912-K) of John A. Geddes for Improved Titanium Oxide Pigments and Process of Making Same, Serial No. 228,926, filed September 8, 1938.

(6) Throughout Belgium:

(a) Belgian application corresponding to U.S. Application (888-K) of James E. Booge for Titanium Pigment Production, Serial No. 215,-218, filed June 22, 1938.

(7) Throughout Japan:

(a) Japanese application corresponding to U.S. Application (911-K) of Ignace J. Krchma for Titanium Oxide Suspensions, Serial No. 219,-601, filed July 16, 1938.

(b) Japanese application corresponding to U.S. Application (915-K) of Holger H. Schaumann for Oxidation Treatment of Tinted Titanium Oxide, Serial No. 228,403, filed September 3, 1938.

(c) Japanese application corresponding to U.S. Application (917-K) of Ignace J. Krchma for Process for Production of Titanium Solutions, Serial No. 233,749, filed October 7, 1938.

to practice any process and to make, use and/or sell any products described or claimed in said applications or any Letters Patent which may issue as a result thereof; the right and license herein granted, however, shall exist only throughout the respective foreign country or countries mentioned, and in which said applications have been filed, and shall continue during the pendency of any such application and the existence of any Letters Patent, prolongations or extensions which may issue thereon; provided, however, that in respect to the aforesaid applications of Winfield W. Heckert 689-K, James E. Boobe 888-K, John A. Geddes 912-K, and Holger H. Schaumann 915-K, the rights granted TITAN hereunder shall be limited and restricted to the use of the inventions involved in said applications 689-K, 888-K, 912-K and 915-K, in the manufacture and sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from TITAN and/or its sub-licensees hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

2. TITAN hereby grants to DU PONT a non-exclusive, royalty-free, non-assignable right and license under the following United States Letters Patent and/or applications therefor, to-wit:

1. Application (Case T.217) of A. J. Oppegaard, et al., for Manufacture of Titanium Dioxide Pigments, Serial No. 277,870, filed June 7, 1939.

2. Application (Case T.240) of F. Raspe and R. W. Ancrum, for Titanium Dioxide Pigment and Print-

ing Inks Containing Same, Serial No. 283,986, filed July 12, 1939 (now Pat. 2,224,987 dated Dec. 17, 1940).

3. Application (Case T.242) of Herman Giese, for Methods of Making Improved Titanium Dioxide Pigments, Serial No. 300,004, filed October 18, 1939.

4. Patent (Case T.43) No. 1,852,510, dated April 5, 1932, to Peder Farup, for Process of Treating Titaniferous Materials with Acids.

to practice throughout the United States of America, its territories and dependencies, any inventions, and to make, use and sell any products described or claimed in said Letters Patent and/or applications, or in any patent or reissue which shall subsequently be granted thereunder; said rights and licenses to exist throughout the life of said Letters Patent and/or applications or any patent or reissue which may be subsequently granted thereunder; provided, however, that in respect of aforesaid application of Raspe and Ancrum, Case T.240, and aforesaid patent of Farup, Case T.43, the rights granted DU PONT hereunder shall be restricted to the use of the inventions involved in said application T.240 and said patent T.43 in the manufacture, use and/or sale of titanium compounds which can be used as pigments.

It is understood and agreed that purchasers from DU PONT and/or its subsidiaries hereunder of pigments and other coloring materials manufactured in pursuance of this license shall be free to use said products within the licensed territory of this section in accordance with any of said licensed inventions.

Exhibit S

3. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in TITAN shall be subject to the right of DU PONT or any of its subsidiaries to freely use and employ, throughout said foreign countries, the inventions described and claimed in said applications and/or any Letters Patent which shall issue as a result thereof; as well as to the right of Imperial Chemical Industries, Limited, of London, England, to freely use and employ the inventions described and claimed in said applications and/or any Letters Patent which may issue as a result thereof, throughout the United Kingdom of Great Britain, Northern Ireland and the Isle of Man.

4. TITAN may grant royalty-free sub-licenses hereunder within the licensed territory to its associated companies, as follows:

(1) Britain Titan Products Co., Billingham England

(2) Societe Industrielle du Titane, Paris, France

(3) Titangesellschaft m.b.H., Leverkusen, Germany

(4) Titan Kogyo Kabushiki Kaisha, Tokyo, Japan

and may, upon consent in writing from DU PONT first obtained, grant within the licensed territory additional sublicenses to any other person, firm, company or corporation.

5. In the event TITAN shall, provided DU PONT consents, grant sub-licenses hereunder to any person, firm or corporation for a stated royalty, it is understood and agreed that TITAN shall pay to DU PONT fifty per cent (50%) of the gross royalties received as a result of any such sublicense or sub-licenses. The royalties so accruing shall be

payable directly from TITAN to DU PONT within thirty (30) days after the close of each calendar quarter for the preceding calendar quarter during which said royalty shall have been received by TITAN.

6. TITAN and DU PONT hereby accept the licenses herein granted and TITAN agrees to assume and pay all costs incidental to the preparation, filing and prosecution of said foreign applications for Letters Patent; it also agrees throughout the term covered by this license to assume and pay all necessary maintenance fees and/or taxes, and endeavor to effect all necessary workings to maintain any Letters Patent issuing as a result of the filing of said applications, and TITAN also agrees that it will not permit the abandonment of any of said applications or of any Letters Patent which may issue as a result of the filing of said applications without first promptly notifying DU PONT of its intention to so abandon and within ample time to permit DU PONT to take over the prosecution of said applications and to maintain said patents in its own behalf and at its own expense, should DU PONT so desire. DU PONT shall be free from paying any expense incidental to the preparation, filing and prosecution of said United States applications in respect of which licenses are herein granted to DU PONT.

7. TITAN and DU PONT, during the period of this license, acknowledge as good and valid the herein-licensed Letters Patent of the other; and each hereby releases the other from any and all liability for infringement of such Letters Patent arising previous to this agreement. Further, each agrees not to directly or indirectly contest the validity of said Letters Patent or to assist others in any infringing

operation, but as far as reasonably possible, agrees to assist the other in maintaining the validity of each of said patents.

8. It is understood and agreed that the license herein created shall pertain to the above-identified inventions and applications and within the licensed territory, and that no rights whatsoever are granted herein under any other inventions, applications and/or patents now owned or hereafter acquired by DU PONT or TITAN.

9. DU PONT and TITAN shall be under no obligation to defend each other against suits for infringement arising out of their operations under the licenses herein granted nor shall either party be liable to any extent for damages assessable against the other by virtue of any such infringement.

10. In the event any of the aforesaid Letters Patent or any letters Patent which may issue as a result of said inventions are infringed by third parties, then DU PONT or TITAN, as respective licensee, and upon consent in writing first obtained from the respective licensor, shall have the right to bring suit against said infringers, but shall be under no obligation to do so. For purposes of said suit, DU PONT or TITAN shall have the right to sue in the respective licensor's name, or include such licensor as a nominal party-plaintiff therein, provided the involved licensor consents thereto in writing. In the event of such consent, DU PONT or TITAN, as licensors, shall be under no obligation to be other than a nominal party to said suit and shall be under no obligation to share the expenses thereof;

provided, however, that DU PONT or TITAN, as licensors, may bring suit at their election in their own name against such infringers and/or join the other as licensee therein in other than a nominal capacity, provided the involved licensee consents thereto in writing.

11. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and TITAN, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where either party hereto brings suit against an infringer upon a patent licensed hereunder, the other party agrees to assist in the prosecution of said suit to the extent of making available any pertinent evidence in its possession.

12. Governmental objection or prohibition shall be a valid plea on the part of either of the parties hereto to decline to disclose or to grant rights with respect to any invention, patent and/or application therefor which, but for such objection or prohibition, would come within the operation of this agreement.

13. For the purpose of this instrument, a subsidiary of either party hereto is defined as a company in which said party owns more than fifty per cent (50%) of the subsidiary stock which is entitled to vote for directors.

Exhibit S

14. This agreement shall be binding upon and inure to the benefit of the parties hereto and their successors.

TITAN COMPANY, INC.

By (s) G. JEBSEN

ATTEST:

(s) C. F. KAEGEBEHN
Asst. Sec'y

E. I. DU PONT DE NEMOURS AND COMPANY,

By (s) C. H. RUPPRECHT
General Mgr., Krebs Pigments Dept.

ATTEST:

(s) F. G. HESS
Asst. Sec'y

Exhibit 6

ITEM 3—NATIONAL LEAD COMPANY SUBPOENA

TITANIUM PIGMENT COMPANY, INC.

ACQUISITION:

2-28-21	15,000	Shares
8-16-22	11,412	"
5-18-23	1,443	"
6-21-23	1,980.9	"
6-25-23	1,019.1	"
7-23-23	200	"
2-29-24	7,000	"
2-26-29	3,105	"
2-28-29	774	"
3- 1-29	135	"
3-25-29	6	"
3-26-29	39	"
11-18-29	486	"
1- 2-30	300	"
12-30-32	7,100	"
	50,000	Shares

100% Ownership

DISPOSITION:

October, 1936 all shares above surrendered to said Company for cancellation or redemption in exchange for all its assets.

TITAN CO. A/S

	SHARES		
	Pfd. A	Pfd. B	Common
12-31-27	21,773	8,714	29,900
5-10-28			23
6-21-29			211
6-26-33			10
	21,773	8,714	30,144
January, 1944 Contract to Purchase from Dr. Jebsen	3,214	1,286	4,646
	24,987	10,000	34,790

Including shares contracted for, ownership over 99%.

SOCIETE BELGE DU TITANE

Subsidiary of Titan Co. A/S.

Sept. 17, 1929—500 Shares Par 1,000 B. F.

Exhibit 6

A/S TITANIA

Subsidiary of Titan Co. A/S

December, 1927—780 Shares Preferred
110 " Common

THE JOSSINGFJORD MANUFACURING CO.

Subsidiary of A/S Titania

December, 1927—536 Shares

TITAN CO., INC.

12-16-29	11,317 Shares
1-28-44	1,683 "
	13,000 Shares

100% Ownership

TITANGESELLSCHAFT m. b. H.

Investment of Titan Co. A/S Nov. 18, 1927—One-half Interest Ownership

Transferred to Titan Co., Inc. December, 1929

UNITED LEAD COMPANY

February 26, 1906—150,000 Shares Common
(entire issue)
and $4,522,000.00—5% Bonds

Bonds completely retired prior to 1929.
Ownership still 100%.

SOCIETE INDUSTRIELLE DU TITANE

Investment of Titan Co. A/S

	SHARES	
	Ordinary	Founders
12-31-27	250	19,129
12-31-27	56,888	
5-10-28	500	
12-31-34		15,555
	57,638	34,684

12-16-29 Transferred to Titan Co., Inc.

Titan Co. A/S also owns 20,875 Shares Common and 22,246 Shares Founders.

Exhibit 6

ASSOCIATED LEAD MANUFACTURERS, LIMITED

	Ordinary Shares	Preference Shares	
9-11-29	7,000		
9-28-29	23,000		
10-10-29	33,650		
10-23-29	20,200		
11- 7-29	10,500		
11-20-29	7,650		
11-20-29	300,000	150,000	
12-19-29	*51,245*		Sold for cash to W. S. Robinson & Associates, England for $243,980.11:
12- 5-29	1,500		
1-31-30	15,000		
2-28-30	7,000		
	374,255	150,000	

12-31-30 Exchanged for 421,036 14/16 Ordinary and 128,571 3/7 Preference Shares of Goodlass Wall & Associated Lead Industries, Ltd. under amalgamation with other Companies.

Exhibit 6

IMPERIAL SMELTING CORP., LTD.

	SHARES		
	Ordinary	Preference	
1-31-31	50,000.	50,000	
5- 8-35		*13,000*)	Sold through Lehman Bros.
5-21-35		*10,000*)	for cash
5-25-35		*27,000*)	$257,477.17.
	50,000	—0—	

GOODLASS WALL & LEAD INDUSTRIES, LTD.

12-31-30—Following Shares received in exchange for 374,255 Ordinary and 150,000 Preference Shares of Associated Lead Manufacturers, Ltd.:

	SHARES			
	Ordinary	Preference		
	421,036 14/16	128,571 3/7		
2-2-31	*14/16*	*3/7*	$ 3.29	—Sold for Cash
4- 1-35		*128,571*	$ 731,975.00	—Sold through Lehman Bros., a/c E. R. Lewis & Co., London
12-14-37	*421,036*		$1,288,938.56	—Sold to Hoyt Metal Co., Great Britain
	—0—	—0—		

CANADIAN TITANIUM PIGMENTS, LTD.

$49,000. Principal Amount 30-Year 7% General Bonds, September 28, 1937

	SHARES		
	Class A	Class B	
9-28-37	490	8,000	
12-31-42		*200*	Redemption at Par, $20,000. Canadian Currency
7-30-43		*200*	Redemption at Par, $20,000. Canadian Currency
5- 1-44		*200*	Redemption at Par, $20,000. Canadian Currency
	490	7,400	

Exhibit 6

AMERICAN ZIRCONIUM CORPORATION

(Investment of Titanium Pigment Co. transferred to National Lead Company)

1-31-36—	1112	Shares Common
12-10-36—	200	" "
1-13-38—	200	" "
	1512	Shares

Above ownership of 1,512 Shares relinquished to Glidden & Co. under surrender of license cancellation and termination of agreement to wit:

May 6, 1935—Titanium Pigment Co., Inc. and American Zirconium Corporation

May 6, 1935—National Lead Company, Titanium Pigment Co., Inc., Glidden Co., Metal & Thermit Corporation and American Zirconium Corporation.

May 6, 1935—Titanium Pigment Co., Inc., American Zirconium Corporation, Glidden Co. and Metal & Thermit Corporation.

Oct. 31, 1936—Assignment to National Lead Company of Contracts of May 6, 1935

Mar. 9, 1944—Glidden Co., American Zirconium Corporation and National Lead Company.

Exhibit 7

Item 6: Schedule of officers and directors (including all members of Executive Committee of NATIONAL LEAD COMPANY—January 1, 1920 to October 30, 1944.

CHAIRMAN OF THE BOARD

Edward J. Cornish	2-23-33— 5- 3-38

PRESIDENTS

Edward J. Cornish	1- 1-20— 2-23-33
Fred M. Carter	2-23-33— 1-12-38
Fletcher W. Rockwell	1-12-38—

VICE PRESIDENTS

Reginald P. Rowe	1- 1-20— 7-17-22
George O. Carpenter	1- 1-20— 4-20-33
Norris B. Gregg	1- 1-20— 9- 6-27
Edward F. Beale	7-27-22— 4-21-38
Evans McCarty	9-15-27— 4-20-33
Fred M. Carter	9-15-27— 2-23-33
William C. Beschorman	9-15-27— 4-21-38
William H. Croft	4-21-31—
James B. Keister	6-27-33—12-22-36
Fletcher W. Rockwell	3-23-37— 1-12-38
Herman T. Warshow	3-23-37—
Harold Rowe	4-21-38—
Henry G. Sidford	4-21-38—12-25-42
William V. Burley	5-25-43—

Exhibit 7

SECRETARIES

Charles Davison	1- 1-20— 1- 7-21
M. Douglas Cole	2-17-21— 4-21-38
Henry O. Bates	4-21-38—

ASSISTANT SECRETARIES

Stratford A. Miller	1- 1-20— 7- 9-20
M. Douglas Cole	11-18-20— 2-17-21
Henry O. Bates	2-17-21— 4-21-38
Charles Simon	5-27-24— 4-16-25
George C. Peterson	4-19-34— 6-17-37
Charles H. Sondhaus	6-17-37—
M. Douglas Cole	6-16-38—12-31-43
Harold E. Keenan	7-30-40—
Charles Simon	7- 3-42—
John B. Henrich	12-16-43—

TREASURERS

Fred R. Fortmeyer	1- 1-20—12-17-25
Charles Simon	12-17-25—

ASSISTANT TREASURERS

Charles Simon	1- 1-20—12-17-25
Henry O. Bates	10- 9-23—
Thomas Kerfut	1- 1-39— 5-26-44
Joseph J. Morsman, Jr.	2-13-41—

DIRECTORS

Reginald P. Rowe	1- 1-20— 7-17-22
Edward F. Beale	1- 1-20—
George O. Carpenter	1- 1-20— 4-20-33
Romulus R. Colgate	1- 1-20— 1- 6-26

Exhibit 7

Edwin C. Goshorn	1- 1-20—	2- 7-24
Walter Tufts	1- 1-20—	2- 7-24
Edward J. Cornish	1- 1-20—	5- 3-38
George W. Fortmeyer	1- 1-20—	12-17-25
Charles E. Field	1- 1-20—	4-20-33
Fred M. Carter	1- 1-20—	2-28-39
William N. Taylor	1- 1-20—	11-21-35
Grafton D. Dorsey	1- 1-20—	5-25-33
John R. Wettstein	1- 1-20—	4-19-28
Gustave W. Thompson	1- 1-20—	1-30-40
Norris B. Gregg	1- 1-20—	9- 6-27
Evans McCarty	7-27-22—	9- 2-33
William C. Beschorman	3-20-24—	1-30-40
Alfred H. Brodrick	4-17-24—	5-25-33
Henry G. Sidford	12-17-25—	12-25-42
Fletcher W. Rockwell	1-21-26—	
William H. Croft	9-15-27—	
James A. Caselton	4-19-28—	2-12-39
William F. Meredith	4-20-33—	9-28-43
Kendall Marsh	4-20-33—	
Leonard T. Beale	5-25-33—	
Herman T. Warshow	5-25-33—	
Charles Simon	3-28-35—	
Oliver H. Greene	11-21-35—	4-21-38
Harold Rowe	4-21-38—	
Joseph J. Morsman	5-24-38—	
Claude F. Garesche	2-28-39—	
James A. Taylor	2-28-39—	
Charles A. Geatty	1-30-40—	
William V. Burley	1-30-40—	
Leonard G. Reichhard	1-26-43—	9-28-43
Walter P. Carroll	9-28-43—	
Joseph A. Martino	1-25-44—	

Exhibit 8

TITANIUM PIGMENT COMPANY, INC.

DIRECTORS

William F. Meredith—	1920-1936
Joseph D. Meredith—	1920-1936
Arthur H. Masten—	1920-1922
Andrew Thompson—	1920-1933
Frederick W. Bahrenburg—	1920
J. Osgood Nichols—	1920-1922
Louis E. Barton—	1920-1936
Clerk: Ernest L. McLean—	1920-1936
Norris B. Gregg—	1920-1927
Edward J. Cornish—	1920-1936
Evans McCarty—	1920-1933
Gustave W. Thompson—	1920-1936
Fletcher W. Rockwell—	1920-1936
Ashleigh S. Moses—	1923-1934
H. T. Warshow—	1923-1936
W. C. Beschorman—	1923-1936
Leonard T. Beale—	1929-1936
Fred M. Carter—	1929-1936
C. F. Garesché—	1934-1936
Ralph M. Roosevelt —	1935-1936
W. W. Washburn—	1934-1936
H. G. Sidford—	1936
I. D. Hagar—	1936

Exhibit 8

TITANIUM PIGMENT COMPANY, INC.

OFFICERS

Chairman of the Board—	Edward J. Cornish, 1920-1935; William F. Meredith, 1936
President—	William F. Meredith, 1920-1935; Ralph Roosevelt, 1936
Vice President—	Andrew Thompson, 1920-1933; Claude F. Garesché, 1934-1936
Vice President—	Evans McCarty, 1920-1933
General Manager—	Andrew Thompson, 1920-1923
Treasurer—	Joseph D. Meredith, 1920-1935; F. H. Dow, 1936
Assistant Treasurer—	George W. Bahrenburg, 1920-1921; 1930-1935
Secretary—	Joseph D. Meredith, 1920-1933; F. H. Dow, 1936
Assistant Secretary—	A. H. Hoffman, 1936
Cashier—	Paul Haasis, 1920-1922

Exhibit 9

TITIAN CO. A/S

Board of Directors

Knud, Dahl, (1929-
E. J. Cornish, (1929-1938)
Evans McCarthy, (1929-1933)
Gustav Jebsen, *(1929-
Christian Vogt, (1929-
Fletcher W. Rockewell, *(1938-
Claude F. Garesché. *(1938-
Harald S. Borchgrevink (1938-

Officers

Christian Vogt, Chairman, (1938-
Gustav Jebsen, Managing Director, *(1938-
S. Knudsen, Local Manager, (1938-
Erik Anker, Sales Manager, (1938-
Th. Bjornstad, Office Manager, (1938-
Emil Noren, Chief Accountant- (1938-

*Present status unknown due to European War.

Exhibit 10

SOCIETE BELGE DU TITANE

Board of Directors

S. J. Henrikssen, (1938-

Gustav Jebsen, *(1938-

Ragnar Iuell, (1938-

Joseph de Vleeschouwer, (1938-

*Present status unknown due to European War.

Officers

Gustav Jebsen, President—*(1938-

Joseph de Vleeschouwer, Manager (1938-

*Present status unknown due to European War.

Exhibit 11

A/S TITANIA

Board of Directors

Harald S. Borchgrevink, (1938-

Knud Dahl, (1938-

Gustav Jebsen, *(1938-

Christian Vogt, (1938-

*Present status unknown due to European War.

Officers

Knud Dahl, President-Chairman, (1938-

E. B. Nolbach, Works Manager—(1938-

Joh. Lenschow, Superintendent—(1938-

Mr. Jaeger, Chief Accountant—(1938-

Exhibit 12

THE JOSSINGFORJD MANUFACTURING CO. A/S

Board of Directors

Harald S. Borchgrevink, (1938-

Knud Dahl, (1938-

Gustav Jebsen, *(1938-

Christian Vogt, (1938-

Officers

Knud Dahl, Chairman—(1938-

E. B. Mölbach, Works Manager—(1938

Joh. Lenschow, Superintendent—(1938-

Mr. Jäger, Chief Accountant—(1938-

*Present status unknown due to European War.

Exhibit 13

TITAN COMPANY, INC.

DIRECTORS

John Milton Ferry, 1929

Adolph Denzau, 1929

Clarence W. Copping, 1929

L. A. Schmidt, 1929

F. M. Schmidt, 1929

W. C. Beschorman, 1930-1938

Gustav Jebsen, 1930-

Fred M. Carter, 1930-1933

Evans McCarty, 1930-1933

E. J. Cornish, 1930-1937

L. T. Beale, 1934-1944

F. W. Rockwell, 1937-

Charles Simon, 1938-

C. F. Garesché, 1938-

Clay R. Smith, 1944-

Exhibit 13

TITAN COMPANY, INC.

OFFICERS

President—	John Milton Ferry, 1929; E. J. Cornish, 1930-1937; F. W. Rockwell, 1938-
Vice President—	Clarence O. Copping, 1929; Evans McCarty, 1930-1932; W. C. Beschorman, 1933-1937; Gustav Jebsen, 1930- C. F. Garesché, 1938-
Secretary—	Adolph Denzau, 1929; M. D. Cole, 1930-1943; C. F. Kaegebehn, 1944-
Treasurer—	Adolph Denzau, 1929; Charles Simon, 1930-
Assistant Secretary—	Sverre Henrikssen, 1930-; C. F. Kaegebehn, 1937-1944
Assistant Treasurer—	Ragnar Juell, 1930-
General Manager—	Gustav Jebsen, 1930-
Comptroller & Auditor—	H. T. Warshow, 1933-1944
Asst. Secretary & Comptroller—	Clay R. Smith, 1944

Exhibit 14

TITANGESELLSCHAFT m. b. H.

"Geschaftsführer" (Managers)

Max Brüggemann, (1938-

Gustav Jebsen, *(1938-

Hans Kühne, (1938-

Fletcher Webster Rockwell, *(1938-

*Present status unknown due to European War.

OFFICERS

Friedrich Raspe, Power-of-Attorney—(1938-

Paul Weise, Special Power-of-Attorney—(1938-

Friedrich Werther, Special Power-of-Attorney—(1938-

Dr. Maus, Office Manager—(1938-

Exhibit 15

UNITED LEAD COMPANY

DIRECTORS

R. P. Rowe	1920-1922
E. J. Cornish	1920-1938
E. T. Merrick	1920-1944
W. A. Price	1920-1922
E. F. Beale	1920-1944
E. R. Hoyt	1920-1932
Walter Tufts	1920-1923
E. McCarty	1920-1933
A. H. Broderick	1920-1934
W. T. Morgan	1920-1924
J. R. Wettstein	1920-1927
C. E. McPhail	1920-1928
G. D. Dorsey	1920-1922
N. B. Gregg	1924-1927
T. H. Markellie	1923-1944
G. W. Thompson	1923-1942
C. E. Field	1925-1944
F. C. Jussen	1925-1944
Theo. Herman	1928-1934
G. H. Worrall	1928-1944
W. C. Beschorman	1928-1944
F. W. Rockwell	1928-
Harold Rowe	1944-
Charles Simon	1944-
Joseph A. Martino	1944-
John B. Heinrich	1944-

Exhibit 15

UNITED LEAD COMPANY

Executive Committee

E. R. Hoyt—1920-1932

E. T. Merrick—1920-1928

R. P. Rowe—1920-1922

G. D. Dorsey—1920-1922

Evans McCarthy—1920-1933

J. R. Wettstein—1920-1939

E. J. Cornish—1920-1938

T. H. Markillie—1923-1928

N. B. Gregg—1923-1927

W. C. Beschorman—1928-

G. W. Thompson—1928-1942

F. W. Rockwell—1928-

Exhibit 15

UNITED LEAD COMPANY

OFFICERS

Chairman of the Board—	E. R. Hoyt, 1920
President—	J. R. Wettstein, 1920-1927; E. J. Cornish, 1928-1938; F. W. Rockwell, 1944-
Vice-President—	R. P. Rowe, 1920-1922
Vice-President—	G. D. Dorsey, 1920-1922
Vice-President—	Norris B. Gregg, 1923-1927
Vice-President—	G. W. Thompson, 1923-1928
Vice-President—	W. C. Beschorman, 1928-1944
Vice-President—	Evans McCarty, 1928-1933
Vice-President—	Harold Rowe, 1944-
Vice-President—	J. A. Martino, 1944-
Secretary—	P. D. Beresford, 1920-1924; J. B. Henrich, 1944-
Treasurer—	Charles Simon, 1944-
Assistant Secretary—	S. A. Miller, 1920; E. R. Dondorf, 1925-1944; E. T. Merrick, 1923-1928; Charles Simon, 1944
Assistant Treasurer—	H. W. Bennett, 1920-1938

Exhibit 16

SOCIETE INDUSTRIELLE DU TITANE

Board of Directors

Noel Alessandri, (1929-1930)
Mr. Paul Gilbert, (1929-
Bernard Gilbert, (1938-
S. J. Henrikssen, (1929-
Emile Lobstein, (1929-1933)
Albert Buisson, (1929-1930)
E. J. Cornish, (1929-1938)
Evans McCarty, (1929-1933)
Max Girard, (1938-
Fletcher W. Rockwell, *(1938-
Gustav Jebsen, *(1938-

Officers

Gustav Jebson, Managing Director, *(1938-
S. J. Henrikssen, Administrative Director, (1938-
Paul Gilbert, Administrative Director, (1938-
S. J. Henrikssen, Secretary, (1938-

*Present status unknown due to European War.

Exhibit

BRITISH TITAN PRODUCTS COMPANY LIMITED

Board of Directors

C. F. Garesché, (1938-

Gustav Jebsen, (1938-

W. S. Robinson, (1938-

F. W. Rockwell, (1938-

O. Wilkins, (1938-

C. J. Stopford, (1938-

Alternates:

S. J. Henrikssen, (1938-

J. L. McConnell, (1938-

D. J. W. Orr, (1938-

A. J. Thompson, (1938-

Officers

W. S. Robinson, Chairman, (1938-

H. S. Tasker, Vice Chairman, (1938-

B. T. Minter, Secretary, (1938-

C. J. Stopford, General Manager, (1938-

Exhibit 18

GOODLASS WALL & LEAD INDUSTRIES, LTD.

BOARD OF DIRECTORS

Clive Cookson, Chairman, (1938-

H. S. Tasker, Managing Director, (1938-

A. P. Bevan, (1938-

Col. A. J. Foster, C.M.G., (1938-

C. F. Hill, (1938-

C. A. Klein, (1938-

R. L. H. Lancaster, (1938-

Sir John Mann, K. B. E., (1938-

E. P. Reynolds, (1938-

F. W. Rockwell, (1938-

J. H. Stewart, (1938-

OFFICERS

Secretary, Urquhart Stewart C.A. (1938-

5922

Exhibit 19

CANADIAN TITANIUM PIGMENTS LTD.

Directors

C. F. Garesché, (1938-

L. W. Haslett, (1938-

E. A. McKinnon, (1938-

F. W. Rockwell, (1938-

H. Greville Smith, (1938-

J. A. Taylor, (1938-

Officers

L. W. Haslett, President, (1938-

Russell Smith, Secretary, (1938-

R. W. Sharwood, Treasurer, (1938-

G. N. Bates, Acting Manager (not an officer.)

Exhibit 20

AMERICAN ZIRCONIUM CORPORATION

Board of Directors

Adrian D. Joyce
F. H. Hirschland
Hubert E. Rogers
R. H. Horsburgh
Walton Smith

} Tenure of office unknown

Officers

President—	Adrian D. Joyce	(1938-	Tenure of office unknown.
Vice-President—	Walton Smith	(1938-	
Secretary—	Hubert E. Rogers	(1938-	
Assistant Secretary—	Clifton H. Kolb	(1938-	
Treasurer—	R. H. Horsburgh	(1938-	
Assistant Treasurer—	J. A. Peters	(1938-	

Exhibit 21

ITEM 7

Name of National Lead Company Director or Officer	Position Held in Designated Companies
W. C. Beschorman	Director, Titan Company, Inc., (1930-1938); Vice President, Titan Company, Inc., (1930-1938); Director, Titanium Pigment Company, Inc., (1923-1936); Director, United Lead Company (1928-1944); Executive Committee, United Lead Company (1928-).
M. D. Cole	Secretary, Titan Company, Inc., (1930-1943).
Fred M. Carter	Director, Titan Company, Inc., (1930-1933); Director, Titanium Pigment Company, Inc., (1929-1936).
Evans McCarty	Director, Titan Company, Inc., (1930-1933); Vice President, Titanium Pigment Company, Inc., (1929-1933); Vice President, Titan Company, Inc., (1930-1932); Director United Lead Company (1920-1933); Executive Committee, United Lead Company, (1920-1933); Vice-President, United Lead Company (1928-1933); Director, Titanium Pigment Company, Inc., (1920-1933); Director, Societe Industrielle du Titane 1929-1933; Director, Titan Co., A/S, (1929-1933).
E. J. Cornish	Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Chairman of Board of Titanium Pigment Company, Inc., (1920-1935); Director, United Lead Company, (1920-1938); Executive Committee, United Lead Company, (1920-1938); President, United Lead Company, (1928-1938); Director, Titanium Pigment Co., Inc. (1920-1936); Director, Societe Industrielle du Titan, (1929-1938); Director, Titan Co., A/S, (1929-1938).
L. T. Beale	Director, Titan Company, Inc., (1934-1944); Director Titanium Pigment Co., Inc. (1929-1936).
H. T. Warshow	Comptroller and Auditor, Titan Company, Inc., (1933-1944); Director, Titanium Pigment Company (1923-1936).
Fletcher W. Rockwell	Director, Titan Company, Inc., (1937-); President Titan Company, Inc., (1938-); Director, United Lead Company (1928-); Executive Committee, United Lead Company, (1928-); President, United Lead Company, (1944-); Director, Titanium Pigment Company, Inc., (1920-1936); Director, Societe In-

Exhibit 21

ITEM 8 (continued)

Name of National Lead Company Director or Officer	Position Held in Designated Companies
Fletcher W. Rockwell (Continued)	dustrielle du Titane, (1938-); Director, Goodlass, Wall and Lead Industries, Ltd., (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pgts. Ltd. (1938-).
Charles Simon	Director, Titan Company, Inc., (1938-); Treasurer, Titan Company, Inc., (1938-); Director, United Lead Company, (1944-); Treasurer, United Lead Company, (1944-); Assistant Secretary, (1944-).
C. F. Garesché	Director, Titan Company, Inc., (1938-); Vice President, Titan Company, Inc., (1938-); Director, Titanium Pigment Company, Inc., (1934-1936); Vice President, Titanium Pigment Company, Inc., (1934-1936); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd., (1938-).
J. A. Martino	Director, United Lead Company, (1944-); Vice President, United Lead Company, (1944-).
Harold Rowe	Director, United Lead Company, (1944-); Vice President, United Lead Company, (1944-).
J. B. Henrich	Director, United Lead Company, (1944-); Secretary, United Lead Company, (1944-).
G. W. Thompson	Director, United Lead Company, (1923-1942); Executive Committee, United Lead Company, (1928-1942); Vice President, United Lead Company, (1923-1928); Director, Titanium Pigment Company, Inc., (1920-1936).
William F. Meredith	Director, Titanium Pigment Company, Inc., (1920-1936); Chairman of the Board, Titanium Pigment Company, Inc., (1936); President, Titanium Pigment Company, Inc., (1920-1935).
Norris B. Gregg	Director, United Lead Company, (1924-1927); Executive Committee, United Lead Company, (1923-1927); Vice President, United Lead Company, (1923-1927); Director, Titanium Pigment Company, Inc. (1920-1927).

Exhibit 21

ITEM 8 (continued)

National Lead Company Name of Director or Officer	Position Held in Designated Companies
R. P. Rowe	Director, United Lead Company, (1920-1922); Executive Committee, United Lead Company (1920-1922), Vice President, United Lead Company, (1920-1922).
E. F. Beale	Director, United Lead Company, (1920-1923).
Walter Tufts	Director, United Lead Company, (1920-1944).
A. H. Broderick	Director, United Lead Company, (1920-1934).
J. R. Wettstein	Director, United Lead Company, (1920-1927); Executive Committee, United Lead Company, (1920-1939); President, United Lead Company, (1920-1927).
G. D. Dorsey	Director, United Lead Company, (1920-1922); Executive Committee, United Lead Company, (1920-1922); Vice President, United Lead Company, (1920-1922).
C. E. Field	Director, United Lead Company, (1925-1944).
H. G. Sidford	Director, Titanium Pigment Company, Inc., (1936).

Exhibit 38

ITEM 3—TITAN CO., INC. SUBPOENA

TITANGESELLSCHAFT m. b. H.

50% Interest
(Transferred 12-16-29 from Titan Co. A/S)

INDUSTRIELLE DU TITANE

	Ordinary Shares	Founders Certificates
3-28-29	57,638	19,129
12-31-34		15,555
	57,638	34,684

BRITISH TITAN PRODUCTS COMPANY, LTD.

	Shares A	Shares B	
3-31-33	12,250		
6-30-33		125,000	
6-30-33	*1,250*		Transferred to R. W. Greeff & Co. for $5,100.00
3-31-34	77,000		
	88,000	125,000	

TITAN KOGYO

6-30-37 — 10,500 Shares

I. G. Farbenindustrie has option to purchase 50% of above.

Exhibit 39

ITEM 7

Name of Titan Company, Inc. Director or Official	Position Held in Designated Companies
W. C. Beschorman	Director, National Lead Company, (1924-1940); Vice President, National Lead Company, (1927-1938), Director, Titan Company, Inc., (1930-1938); Vice President, Titan Company, Inc., (1930-1938).
Gustav Jebsen	Director, Titan Company, Inc., (1930-); Vice President, Titan Company, Inc., (1930-); Director, Societe Industrielle du Titane, (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co. A/S, 1929-); Managing Director, Titan Co. A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Societe Belge du Titane, (1938-); President Societe Belge du Titane, (1938-) Director; A. S. Titania, (1938-); Director, The Jossingfjord Manufacturing Co. A/S, (1938-).
Fred M. Carter	Director, National Lead Company, (1920-1939); President, National Lead Company, (1933-1938); Vice President, National Lead Company, (1927-1933); Director, Titan Company, Inc., (1930-1933);
Evans McCarty	Director, National Lead Company, (1922-1933); Vice President, National Lead Company, (1927-1933) Director, Titan Company, Inc., (1930-1933); Vice President, Titan Company, Inc., (1930-1932); Director Societe Industrielle du Titane, (1929-1933); Director, Titan Co., A/S, (1929-1933);
E. J. Cornish	Director, National Lead Company, (1920-1938); President, National Lead Company, (1920-1933); Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Director, Societe Industrielle du Titane, (1929-1938); Director, Titan Co. A/S, (1929-1938);
L. T. Beale	Director, National Lead Company, (1933-); Director, Titan Company, Inc., (1934-1944);
F. W. Rockwell	Director, National Lead Company, (1926-); President, National Lead Company, (1938-); Vice President, National Lead Company, (1937-1938); Director,

Exhibit 39

ITEM 7 (continued)

Name of Titan Company, Inc. Director or Official	Position Held in Designated Companies
F. W. Rockwell (Continued)	Titan Company, Inc., (1937-); President, Titan Company, Inc., (1938-); Director, Societe Industrielle du Titane, (1938-); Manager, Titangesellschaft m.b.H., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd. (1938-);
Charles Simon	Director, National Lead Company, (1935-); Treasurer, National Lead Company, (1925-); Assistant Secretary, National Lead Company, (1942-); Director, Titan Company, Inc., (1938-);
C. F. Garesché	Director, National Lead Company, (1939-), Manager, Titanium Division of National Lead Company (1937-); Assistant Manager of Titanium Division of National Lead Company, (1936-1937); Assistant Production Manager, (1933-1936); Director, Titan Company, Inc., (1938-); Vice President, Titan Company, Inc., (1938-); Director, Titan Co., A/S, (1938-); Director, British Titan Products Company Limited, (1938-); Director, Canadian Titanium Pigments Ltd., (1938-).
Clay R. Smith	Accountant with National Lead Company, (1935-1944); Assistant Secretary and Comptroller, Titan Company, Inc., (1944).
H. T. Warshow	Director, National Lead Company, (1933-); Vice President and Comptroller, National Lead Company, (1937-); Comptroller and Auditor, Titan Company, Inc., (1933-1944).
M. D. Cole	Secretary, National Lead Company. (1921-1938); Assistant Secretary, National Lead Company, (1920-1921); (1938-1943); Assistant to President of National Lead Company, (1938-1943).
C. F. Kaegebehn	Manager, Patent Department, National Lead Company, (1937-); Assistant Secretary, Titan Company, Inc., (1937-1944).

Exhibit 40

Imports of Titanium Pigments
Into the United States and Canada

1931—None

1932—None

1933—275.575 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

1934— 55.115 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

33.600 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

1935—268.422 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

162.400 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

Exhibit 40

1936— 45.01 tons as Pure Titanium Oxide
Imported from Titangesellscheft m.b.h., Leverkusen, Germany
For the Account of Titan Co. A.S.

538.890 tons as Pure Titanium Oxide
Imported from British Titan Products Co., England

1937 To Date—None Imported Into The United States

While our records do not disclose the exact distribution of the above imports between the United States and Canada, we believe that all shipments made by Titangesellscheft for the account of Titan Co. A.S. were imported into the United States, and all imports from British Titan Products Co. were for Canada 12-5-44.

In compliance with the du Pont subpoena, the following schedules and statements are furnished, the number before each designating the involved paragraph of the subpoena:

18. The annual production of TiO_2 and composite titanium pigments by du Pont and/or its subsidiaries from January 1, 1928, these figures showing the production of the commodity by its trade names "TI-PURE" (pure TiO_2); "TI-BAR" (barium sulfate-extended TiO_2 in which the barium sulfate content ranges from 70-75%); and "TI-TINT" (TiO_2 colored with small amounts (not to exceed 2%) of various colored metal oxides); "TI-CAL" (calcium sulfate-extended TiO_2 containing 70% calcium sulfate); "TI-SIL" (TiO_2 extended with 70% magnesium silicate); and "DUOLITH" and "TI-TONE". The two latter trade names designate titanated lithopones in which a 15% TiO_2 content is present.

22. Annual sales of Krebs Pigment and Color Corporation and du Pont of TiO_2 and composite pigments from January 1, 1928, in the form of the trade names "TI-PURE", "TI-BAR", "TI-TINT", "TI-CAL", "TI-SIL" and "DUOLITH" and "TI-TONE". The annual production figures requested in this paragraph 22 are shown by the figures already given in response to Paragraph 18 of the subpoena.

It is to be understood that all production figures given for "TI-BAR", "TI-CAL", "TI-SIL", "TI-TINT" and "DUOLITH" and "TI-TONE" include their TiO_2 contents, which also are included in the "TI-PURE" production figures.

Also, all sales and transfers of all pigments shown are on a commodity basis, that is, all quantities include the TiO_2 content.

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Exhibit 41

PRODUCTION (LBS.)

Year	"Ti-Pure"	"Ti-Bar"	"Ti-Tint"
Krebs Pigment & Color Corp.			
1931 (Last 5 mos.)	1,650,819		
1932	7,746,371		
1933	11,022,112		
1934	21,398,714		
1935	40,055,514	4,968,050 (7 mos.)	
E. I. du Pont de Nemours & Co.			
1936	50,371,837	10,058,860	
1937	61,060,966	14,426,367	143,094 (6 mos.)
1938	55,267,150	13,806,360	253,662
1939	70,609,916	17,830,536	662,030
1940	84,709,713	19,653,399	817,998
1941	101,348,806	22,555,649	973,960
1942	88,766,253	11,737,231	907,358
1943	85,686,881	9,778,340	639,718
1944 (First 10 mos.)	79,727,397	10,049,038	803,145

Exhibit 41

PRODUCTION (LBS.)

Year	"Duolith" & "Ti-Tone"	"Ti-Cal"	"Ti-37
Krebs Pigment & Color Corp.			
1931	6,386,650		
1932	6,766,750		
1933	10,174,650		
1934	13,955,350		
1935	23,561,650	9,569,410 (7 mos.)	
E. I. du Pont de Nemours & Co.			
1936	21,434,713	14,922,677	
1937	21,655,350	29,753,730	1,779,57
1938	18,856,206	32,529,503	3,480,23
1939	18,318,245	42,713,099	3,517,20
1940	15,483,965	52,747,003	4,280,80
1941	14,953,499	58,994,629	4,677,46
1942	10,014,176	48,310,234	1,130,52
1943	8,374,411	44,553,114	537,54
1944 (First 10 mos.)	8,647,412	37,216,129	564,40

SALES AND TRANSFERS

TITANIUM DIOXIDE AND TITANIUM PIGMENTS

	"Ti-Pure"		"Ti-Bar"		"Ti-Cal"	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
By Krebs Pigment & Color Corp.						
August 1 - December 31, 1931	1,791,706	$ 304,772	—	$ —	—	$ —
Year 1932	6,042,273	1,004,982	—	—	—	—
" 1933	10,334,197	1,661,873	—	—	—	—
" 1934	18,373,643	2,971,162	—	—	—	—
" 1935	29,921,455	4,895,301	3,195,230	186,540	5,263,862	312,485
By E. I. duPont de Nemours & Co.						
Year 1936	39,110,925	6,312,646	9,636,670	557,879	17,158,898	991,462
" 1937	41,764,159	6,525,839	14,713,198	836,187	27,869,085	1,593,969
" 1938	37,176,798	5,555,587	14,675,199	835,720	31,443,362	1,788,296
" 1939	47,784,592	6,268,834	18,508,468	995,466	42,626,574	2,296,704
" 1940	57,795,500	7,382,916	18,737,985	971,369	52,900,110	2,625,167
" 1941	73,398,973	10,104,498	23,278,574	1,295,964	61,886,546	3,284,614
" 1942	63,018,842	9,336,247	11,903,730	691,083	46,578,651	2,566,938
" 1943	72,851,030	10,816,764	11,961,313	692,136	48,174,929	2,653,084
January 1 - June 30, 1944	34,988,046*	5,216,011	5,331,506	306,523	22,464,313	1,239,254
January 1 - September 30, 1944	54,588,195*	8,140,725	8,181,193	471,092	33,766,475	1,865,680

*Use either but not both.

Exhibit 41

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Exhibit 41

SALES AND TRANSFERS

Titanium Dioxide and Titanium Pigments

	"Ti-Sil" Pounds	"Ti-Sil" Dollars	"Ti-Tint" Pounds	"Ti-Tint" Dollars	"Ti-Tone" — "Duolith" Pounds	"Ti-Tone" — "Duolith" Dollars
By Krebs Pigment & Color Corp.						
August 1 - December 31, 1931	—	$ —	—	$ —	2,144,203	$ 140,199
Year 1932	—	—	—	—	6,536,165	413,998
" 1933	—	—	—	—	10,057,865	603,015
" 1934	—	—	—	—	13,900,217	835,676
" 1935	—	—	—	—	22,088,306	1,323,723
By E. I. duPont de Nemours & Co.						
Year 1936	454,670	26,391	—	—	21,502,864	1,267,046
" 1937	1,463,290	83,766	52,386	9,634	21,132,126	1,210,620
" 1938	3,356,670	188,318	236,268	41,081	19,220,960	1,098,517
" 1939	3,565,014	189,700	548,904	87,923	18,097,813	982,478
" 1940	4,434,360	226,628	758,814	117,854	15,743,683	792,664
" 1941	4,983,615	269,768	1,065,100	177,463	16,562,407	869,271
" 1942	1,004,275	58,910	815,300	148,290	9,304,151	519,054
" 1943	770,050	44,680	732,621	133,058	9,860,771	552,150
January 1 - June 30, 1944	340,350*	20,493	515,050	92,782	5,229,439	292,277
January 1 - September 30, 1944	512,200*	30,492	725,250	129,643	7,800,739	435,930

*Use either but not both.

Exhibit 45

EXPORT SALES OF "TI-PURE"—TITANIUM DIOXIDE

(Pounds)

1932		
	Canada	
	Canadian Industries, Ltd., Toronto	22,800#
1933		
	Canada	
	Canadian Industries, Ltd., Toronto	22,800#
1934		
	Canada	
	Canadian Industries, Ltd., Toronto	65,800#
	Mexico	
	Du Pont, S.A., Mexico City	3,250#
1935		
	Canada	
	Canadian Industries, Ltd., Toronto	120,000#
	Mexico	
	Du Pont, S.A., Mexico City	3,250#
1936		
	Argentina	
	Alba, S.A., Buenos Aires	4,500#
	Industrias Quimicas "Duperial", Buenos Aires	14,500#
	Canada	
	Canadian Industries, Ltd., Toronto	42,500#
	Cuba	
	Turull, Thomas F., & Co., Havana	150#
	Mexico	
	Du Pont, S.A., Mexico City	4,950#

Exhibit 45

1937

Argentina

Alba, S. A., Buenos Aires	22,000#
Industrias Quimicas "Duperial", Buenos Aires	29,200#

Canada

Canadian Industries Ltd., Toronto	6,100#
Canadian Titanium Pigments, Montreal	120,000#

Cuba

La Teneria Nacional #4, Havana	300#

Ecuador

Ernesto Kruger, Ambato	15#

Mexico

Du Pont, S.A., Mexico City	27,210#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	2,100#

1938

Argentina

Industrias Quimicas "Duperial", Buenos Aires	16,550#

Brazil

Industrias Chimicas Brazileiras "Duperial", Sao Paulo	24,300#

Cuba

Cazaban Genin Y Cia, Caibarien	3,000#
Crusellas Y Cia, Havana	4,200#
Leal, Pedro Rodriguez, Havana	300#
Perfumeria Drialys, S.A., Havana	1,500#

Ecuador

Ernesto Kruger, Ambato	15#

Exhibit 45

1938 (Cont'd)

Mexico

Du Pont, S.A., Mexico City	27,110#

1939

Argentina

Industrias Quimicas "Duperial", Buenos Aires	85,720#

Brazil

Cia Brasileira de Artefactos, Rio de Janeiro	1,320#
Guilherme Humitzsch & Cia, Ltda., Rio de Janeiro	3,892#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	37,800#

British West Indies

Jamaica Fertilizer Products, Ltd., Jamaica	600#

Colombia

Hermidez Padilla, Bogota	5,900#

Cuba

Cazaban Genin Y Cia, Caibarien	3,000#
Crusellas Y Cia, Havana	300#
Leal, Pedro Rodriguez, Havana	5,100#
Lopezy, Ignacio Cia, Jovellanos	2,100#
Turull, Thomas F., & Co., Havana	6,000#

Mexico

Du Pont, S.A., Mexico City	24,300#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	2,100#
Marcelo Rubber & Latex Products, Inc., Rizal	2,100#

Exhibit 45

1940

Argentina

Industrias Quimicas "Duperial", Buenos Aires	85,010#

Brazil

Candido Aleixo & Cia, Sao Paulo	1,200#
Carrione, Manuel, Rio de Janeiro	2,400#
Cia Brasileira de Artefactos, Rio de Janeiro	28,600#
Cia Industrial, Ltda., Sao Paulo	6,600#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	41,700#
Industrias Reunidas F. Matarazo, Sao Paulo	20,100#
Mfg. de Artigos de Borracha E Ebonite, Sao Paulo	2,400#

Chile

Ceresita, Ltda., Santiago	300#

Colombia

Hermidez Padilla, Bogota	24,000#

Cuba

Cazaban Genin Y Cia, Caibarien	3,600#
Hubbuck, Thomas, & Son, Ltd., Havana	900#
Leal, Pedro Rodriquez, Havana	3,300#
Pinturas Klipper, S.A., Havana	300#
Turull, Thomas F., & Co., Havana	12,610#

Mexico

Du Pont, S.A., Mexico City	51,750#

Peru

Ronald & Co., Lima	4,400#

Phillipine Islands

Mabuhay Rubber Shoe Factory, Inc., Cuneta Pasay Rizal	900#

Uruguay

Industrias Quimicas Uruguayas "Duperial", Montevideo	2,100#

Exhibit 45

1941

Argentina	
Alba, S.A., Buenos Aires	48,600#
Industrias Quimicas "Duperial", Buenos Aires	105,000#
Brazil	
Brickman, A., Rio de Janeiro	1,200#
Cia Brasileira de Artefactos, Rio de Janeiro	4,800#
Cia Brasileira "Rhodiaceta", Sao Paulo	11,100#
Cia Nitrochimica Brasileira, Sao Paulo	15,000#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	30,900#
Colombia	
Hermidez Padilla, Bogota	25,000#
Cuba	
Cazaban Genin Y Cia, Caibarien	1,800#
Leal, Pedro Rodriquez, Havana	3,300#
Pinturas Klipper S.A., Havana	1,800#
Rohner Gehrig & Co., Inc., Havana	300#
Sanchez Ferrandez Y Cia, Santa Clara	3,000#
Turull, Thomas F., & Co., Havana	12,700#
Mexico	
Du Pont, S.A., Mexico City	102,400#
Peru	
Milne & Co., S.A., Lima	4,400#
Ronald & Co., Lima	4,400#
Uruguay	
Industrias Quimicas Uruguayas "Duperial", Montevideo	1,200#
Venezuela	
Venezolana Para El La Industria, Caracas	6,000#

Exhibit 45

1942

Argentina

Industrias Quimicas "Duperial", Buenos Aires	20,400#

Brazil

Cia Brasileira "Rhodiaceta", Sao Paulo	1,800#
Cia Nitrochimica	2,400#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	28,800#

Colombia

Hermídez Padilla, Bogota	1,900#

Cuba

Cazabon Genin Y Cia, Caibarien	4,670#
Hubbuck, Thomas, & Son, Ltd., Havana	20,000#
Leal, Pedro Rodriquez, Havana	5,900#
Pinturas Klipper, S.A., Havana	2,000#
Sanchez, Ferrandez Y Cia, Santa Clara	4,500#
Sanchez, Hegys, & Co., Ltd., Santa Clara	4,200#
Tellechia, Felipe, & Cia, Caibarien	3,000#
Turull, Thomas F., & Co., Havana	13,300#

Mexico

Du Pont, S.A., Mexico City	185,200#

Peru

Ronald & Co., Lima	1,100#

1943

Argentina

Alba, S.A., Buenos Aires	16,200#
Angel Mendez & Cia, Buenos Aires	2,400#
Apeles, S.A., Buenos Aires	45,000#
Dewey & Almy, Quilmes	6,600#
Fiore & Co., Buenos Aires	4,200#
Industrias Quimicas "Duperial", Buenos Aires	123,000#

Brazil

Cia Brasileira "Rhodiaceta", Sao Paulo	6,000#
Cia Nitrochimica Brasileira, Sao Paulo	12,300#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	43,200#
Machado & Cia, Rio de Janeiro	4,484#
S.A. Cortume Carioca, Rio de Janeiro	11,100#

Exhibit 45

1943 (Cont'd)

Colombia

Hermidez Padilla, Bogota	15,600#

Cuba

Batan Y Morán, Havana	11,100#
Cazaban Genin Y Cia, Caibarien	6,000#
Pinturas Klipper, S.A., Havana	4,000#
Sanchez, Ferrandez Y Cia, Santa Clara	300#
Sanchez, Heguys & Co., Ltd., Santa Clara	10,500#

Ecuador

Curtiembre San Pedro DE E Noriega, Guayaquil	900#

Mexico

Du Pont, S.A., Mexico City	77,350#

Peru

Du Pont, S.A., Lima	11,000#
Ronald & Co., Lima	550#

Uruguay

Brussoni, Cia, Montevideo	11,100#

1944 (ten months)

Argentina

Alba, S.A., Buenos Aires	2,700#
Industrias Quimicas "Duperial", Buenos Aires	5,700#

Brazil

Carrione, Manuel, Rio de Janeiro	4,500#
Cia Brasileira "Rhodiaceta", Sao Paulo	21,900#
Cia Nitrochimica Brasileira, Sao Paulo	9,900#
De Castro Vieiras, Rio de Janeiro	5,400#
Industrias Chimicas Brazileiras "Duperial", Sao Paulo	10,500#
Industrias Quimicas Brazileiras, Rio de Janeiro	5,400#
Mikail Antonio & Cia, Ltda., Sao Paulo	6,900#
Sociedade Mercantil Importadora, Ltda., Rio de Janeiro	1,500#

Exhibit 45

Colombia

Hermidez Padilla, Bogota	10,200#

Cuba

Batan Y Moran, Havana	7,500#
Cazaban Genin Y Cia, Caibarien	15,000#
Drogueria Sarra, Havana	2,100#
Leal, Pedro Rodriquez, Havana	2,100#
Pinturas Klipper, S.A., Havana	5,000#
Tellechea, Felipe, & Cia, Caibarien	10,000#
Turull, Thomas F., & Co., Havana	15,000#

Mexico

Du Pont, S.A., Mexico City	109,500#

Peru

Compania de Fab. de Prod. Quimicas, Lima	2,100#
Du Pont, S.A., Lima	2,500#

Venezuela

C.A. Venezolana "Covequin", Caracas	21,600#

EXPORT SALES OF "TI-BAR"—TITANIUM BARIUM
(Pounds)

1936

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,950#

1937

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	5,650#

Canada

Canadian Titanium Pigments, Montreal	5,000#

1938

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	3,800#

1938 (Cont'd)

Brazil

Industrias Chimicas Brasileiras "Duperial", Sao Paulo	50#	

Canada

Canadian Titanium Pigments, Montreal	7,500#	

Cuba

Leal, Pedro Rodriquez, Havana	300#	

Mexico

Du Pont, S.A., Mexico City	1,400#	

1939

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	11,050#	

Brazil

Cia Industrial, Ltda., Sao Paulo	11,000#	
Industrias Chimicas Brasileiras "Duperial", Sao Paulo	100#	NC

Canada

Canadian Titanium Pigments, Montreal	38,000#	

1940

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	12,222#	

Brazil

Carrione, Manuel, Rio de Janeiro	2,100#	

Canada

Canadian Titanium Pigments, Montreal	10,000#	

Exhibit 45

1940 (Cont'd)

Cuba

Leal, Pedro Rodriquez, Havana	500#
Pinturas Klipper, S.A., Havana	1,200#

1941

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	10,140#

Brazil

Carrione, Manuel, Rio de Janeiro	12,250#

Canada

Canadian Titanium Pigments, Montreal	35,000#

Cuba

Hubbuck, Thomas, & Son, Ltd., Havana	21,000#

1942

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	700#

Cuba

Hubbuck, Thomas, & Son, Ltd., Havan	8,050#
Pinturas Klipper, S.A., Havana	600#

1943

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,726#

Brazil

Carrione, Manuel, Rio de Janeiro	7,600#
Cia Industrial, Ltda., Sao Paulo	39,900#

Cuba

Cia Cubana de Pinturas, Havana	2,000#

Exhibit 45

1944 (ten months)

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	606#

Brazil

Cia Industrial, Ltda., Sao Paulo	44,100#

Cuba

Cia Cubana de Pinturas, Havana	4,000#
Hubbuck, Thomas, & Son, Ltd., Havana	40,000#
Leal, Pedro Rodriquez, Havana	2,000#

EXPORT SALES OF "TI-CAL"—TITANIUM CALCIUM
(Pounds)

1934

Canada

Canadian Industries Ltd., Toronto	100#

1935

Canada

Canadian Industries Ltd., Toronto	1,100#

Mexico

Du Pont, S.A., Mexico City	50# NC

1936

Mexico

Du Pont, S.A., Mexico City	100#

1937

No sales

1938

Cuba

Leal, Pedro Rodriquez, Havana	300#

Mexico

Du Pont, S.A., Mexico City	1,100#

Exhibit 45

1939		
	Brazil	
	Ind. Chimicas Brasileiras, Sao Paulo	50# NC
	Colombia	
	Auday & Co., Bogota	2,000#
	Gerlein & Cia, Eduardo L., Bogota	2,100#
	Mexico	
	Du Pont, S.A., Mexico City	425#
1940		
	Argentina	
	Industrias Argentinas "Duperial", Buenos Aires	311#
	Colombia	
	Cia de Productos de Caucho "Grulla", Medellin	500#
	Gerlein & Cia, Eduardo L., Bogotá	2,100#
	Cuba	
	Compania Cubana de Caucho, S.A., Havana	6,000#
	Hubbuck, Thomas, & Son, Ltd., Havana	3,000#
	Leal, Pedro Rodriquez, Havana	500#
	Pinturas Klipper, S.A., Havana	600#
	Mexico	
	Du Pont, S.A., Mexico City	300#
1941		
	Argentina	
	Industrias Quimicas Argentinas "Duperial", Buenos Aires	4,200#
	Colombia	
	Gerlain & Cia, Eduardo L., Bogota	2,100#
	Cuba	
	Compania Cubana de Caucho, S.A., Havana	4,000#
	Hubbuck, Thomas, & Son, Ltd., Havana	4,000#
	Pinturas Klipper, S.A., Havana	900#
	Rohner Gehrig & Co., Inc., Havana	200#

Exhibit 45

1942

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	300#

Cuba

Compania Cubana de Caucho, S.A., Havana	800#
Hubbuck, Thomas, & Son, Ltd., Havana	3,950#
Pinturas Klipper, S.A., Havana	1,150#

Mexico

Du Pont, S.A., Mexico City	22,000#

1943

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	242#

Cuba

Pinturas Klipper, S.A., Havana	4,000#

Mexico

Du Pont, S.A., Mexico City	15,700#

1944 (ten months)

Argentina

Industrias Quimicas Argentinas "Duperial", Buenos Aires	242#

Cuba

Cia Cubana de Pinturas, S.A., Luyano	2,000#
Leal, Pedro Rodriquez, Havana	4,000#
Pinturas Klipper, S.A., Havana	10,000#

Mexico

Du Pont, S.A., Mexico City	22,000#

5.50

Exhibit 45

EXPORT SALES OF "TI-SIL"—TITANIUM MAGNESIUM
(Pounds)

1936

Mexico

Du Pont, S.A., Mexico City ..... 600#

1937

England

British Titan Products Co., Ltd., Durham ..... 200# NC

1938

Cuba

Leal, Pedro Rodriquez, Havana ..... 300#

1939

Brasil

Industrias Chimicas Brasileiras, Sao Paulo ..... 50# NC

Canada

Standard Paint Co., Windsor ..... 50#

1940

Cuba

Leal, Pedro Rodriquez, Havana ..... 1,500#

1941

Argentina

Industrias Quimicas Argentinas "Duperial",
Buenos Aires ..... 365#

1942

Argentina

Industrias Quimicas Argentinas "Duperial",
Buenos Aires ..... 175#

Exhibit 45

1943

Mexico

Du Pont, S.A., Mexico City	2,200#

1944 (10 months)

Cuba

Leal, Pedro Rodriquez, Havana	2,000#

Mexico

Du Pont, S.A., Mexico City	5,000#

552

Exhibit 46

SCHEDULE OF ROYALTIES PAID BY AMERICAN ZIRCONIUM COMPANY UNDER AGREEMENT DATED JANUARY 1, 1935

To Krebs Pigment & Color Corporation

	Net Tons	Amount
For Year 1935	2206.600	$15,004.84

To E. I. du Pont de Nemours & Company

For Year 1936	3053.6670	20,468.47
" " 1937	3316.8000	21,227.52
" " 1938	4403.2000	26,303.44
" " 1939	5281.0585	28,498.20
" " 1940	4829.6835	25,114.36
" " 1941	6568.4250	36,794.20
" " 1942	1796.1500*	10,417.68
" " 1943	236.6250*	1,372.43
" " 1944 Six Months	1974.9500	11,454.72

*No production reported 10/1/42-9/30/43, both inc.

CHL/1

Exhibit 47

SCHEDULE OF ROYALTIES PAID BY
VIRGINIA CHEMICAL CORPORATION
—AMERICAN CYANAMID COMPANY
UNDER AGREEMENT DATED AUGUST 5, 1937

	Net Tons	Amount
To E. I. du Pont de Nemours & Company		
For 3 Mos. ended 12/31/37	300.0000	$ 1,920.00
Year 1938	2896.5500	17,102.56
" 1939	4014.0020	21,596.36
" 1940	5024.7750	26,170.43
" 1941	5499.5250	31,934.36
" 1942	5755.7500	33,838.72
" 1943	6437.9295	38,700.47
" 1944 Six Months	3647.1525	22,612.34

Exhibit 48

KREBS PIGMENT & COLOR CORPORATION
AND
KREBS PIGMENTS DEPARTMENT

Royalty paid under Agreement dated January 1, 1933 between Krebs Pigment and Color Corporation and Titanium Pigment Company, Incorporated:

Period Covered	Paid To	Paid By	Amount
Year 1933	Titanium	Krebs	$10,000 Net
" 1934	"	"	10,000 "
" 1935	"	"	10,000 "
" 1936	"	"	10,000 "
TOTAL			$40,000 Net

AT 12686—Krebs 48-C
ZP 8/11/42

Exhibit 49

There being no further business on motion duly made, seconded, and carried the meeting duly adjourned.

s/ ADOLPH DENZAU

.....

Secretary.

TITAN COMPANY, INC.

Minutes of a Special Meeting of the Board of Directors held December 12, 1929.

A special meeting of the Board of Directors of Titan Company, Inc., was held at No. 120 Broadway, in the Borough of Manhattan of The City of New York, in the County and State of New York, on the 12th day of December, 1929, at two o'clock in the afternoon, pursuant to the following written waiver of notice signed by all the directors and fixing the time, place, and purpose of the meeting.

TITAN COMPANY, INC.

Waiver of Notice of Special Meeting of Board of Directors to be held December 12, 1929.

We, the undersigned, being all the directors of Titan Company, Inc., do hereby waive any and all notice whatsoever of a special meeting of the Board of Directors of said corporation and of the time, place, and purpose thereof, and do hereby designate and fix the 12th day of December, 1929, at two o'clock in the afternoon as the time, and No. 120 Broadway, in the Borough of Manhattan of the City of New York, in the County and State of New York, as the place of said meeting; and do hereby waive any and all

notice of said meeting and of the time, place, and purpose thereof, required by the statutes of Delaware, the by-laws of the corporation, or otherwise, and we do hereby consent that any and all business may be transacted at said meeting that may be deemed desirable by the directors present thereat.

Dated, December 12, 1929.

s/ JOHN MILTON FERRY

.....

s/ ADOLPH DENZAU

.....

s/ CLARENCE W. COPPING

.....

s/ F. M. SCHMIDT

.....

s/ L. A. SCHMIDT

.....

There were present John Milton Ferry, Adolph Denzau, Clarence W. Copping, L. A. Schmidt, and F. M. Schmidt, being all the directors of the corporation and constituting a quorum of the Board.

The meeting having been duly called to order, upon motion duly made, seconded, and carried, Mr. John Milton Ferry was chosen Chairman of the meeting and Mr. Adolph Denzau Secretary thereof.

Exhibit 49

It was reported that the meeting was held pursuant to the foregoing written waiver of notice and consent signed by all the directors and, on motion duly made, seconded, and carried, it was ordered that a copy thereof be spread upon the minutes of the meeting.

On motion duly made, seconded, and carried, the following preambles and resolution were duly and unanmiously adopted:

WHEREAS, Titan Co. A/S of Fredriksstad, Norway, has offered to sell, assign and transfer to this corporation as of January 1, 1929, all its certain patents and patent rights relating to the manufacture of titanium and titanium compounds and, subject to the consent of the other parties thereto, all its right, title, and interest under certain contracts as specified in the Agreement hereinafter mentioned, in consideration of the payment by this corporation to said Titan Co. A/S of certain royalties as provided in said Agreement and the further sum of one million six hundred thousand (1,600,000) Norwegian Kroner, payable if desired by the cancellation by National Lead Company as of January 1, 1929, of a corresponding amount of the indebtedness of said Titan Co. A/S to it, and has submitted for acceptance and execution by this corporation an Agreement designed to effectuate said assignment and more fully describing the terms and conditions thereof, executed by said Titan Co. A/S under date of March 23, 1929; and

WHEREAS, I. G. Farbenindustrie A. G. and Titangesellschaft m.b.H., of Leverkusen, Germany, parties to certain of the contracts so offered to be assigned under said Agreement, have consented to such assignment only upon the conditions (1) that National Lead Company shall at all times own at least eighty-six per cent (86%) of the capital stock

of this corporation from time to time issued and outstanding and shall agree not to permit any reduction of its said stock interest without the prior consent of said German companies in writing, and (2) that said Titan Co. A/S, in addition to this corporation, shall remain liable to said German companies for the performance of all obligations applicable to the contract interests so to be assigned; and said I. G. Farbenindustrie A. G. has stipulated the same conditions for its consent to the assignment by National Lead Company to this corporation of the former's proprietary one-half interest in said Titangesellschaft m.b.H., accepted by this Board at it meeting held March 28, 1929; and

WHEREAS, said National Lead Company has given this corporation satisfactory assurances that it will not permit its stock interest in this corporation to fall below eighty-six per cent (86%) of the total capital stock of this corporation from time to time issued and outstanding, without having first obtained the written consent of said German companies to such reduction; and

WHEREAS, said Titan Co. A/S has consented to remain liable for the performance of all obligations applicable to the proprietary one-half interest in said Titangesellschaft m.b.H. and to the contract interests so assigned or to be assigned as aforesaid, provided this corporation indemnifies it and saves it harmless from the consequences of such continued liability; and

WHEREAS, National Lead Company has offered to effect payment of the consideration of one million six hundred thousand (1,600,000) Norwegian Kroner stipulated for the

assignment first above mentioned, by cancellation on its books as of January 1, 1929, of a corresponding amount of the indebtedness of said Titan Co. A/S to it, in consideration of the issue to said National Lead Company of four hundred twenty-eight thousand eight hundred dollars ($428,800) in par value of the fully paid capital stock of this corporation; and

WHEREAS, in the judgment of this Board it is for the best interests of this corporation that the offer of assignment by said Titan Co. A/S hereinabove mentioned be accepted upon the various conditions hereinabove recited; therefore, be it

RESOLVED, that the officers of this corporation be and they hereby are authorized, empowered, and directed (1) to execute and deliver on behalf of this corporation the above-mentioned Agreement submitted by said Titan Co. A/S to effect said assignments and executed by it under date of March 23, 1929; (2) to issue to National Lead Company four thousand two hundred and eighty-eight (4,288) fully paid shares of the capital stock of this corporation upon receipt from said National Lead Company of satisfactory evidence of the cancellation by it as of January 1, 1929, of one million six hundred thousand (1,600,000) Norwegian Kroner of indebtedness of said Titan Co. A/S to it; (3) to execute and deliver on behalf of this corporation such instruments as may be proper to indemnify said Titan Co. A/S for all the consequences of its continued liability for the performance of all obligations applicable to the contract interests and to the proprietary one-half interest in said Titangesellschaft m.b.H. so assigned to this corpo-

ration; and (4) generally to take any and all such steps and to execute and deliver any and all such instruments as may in their judgment be necessary or expedient in the premises.

On motion duly made, seconded, and carried, the following preambles and resolution were duly and unanimously adopted:

WHEREAS, since the acquisition by this corporation from National Lead Company of the former's proprietary one-half interest in Titangeselleschaft m.b.H., said National Lead Company, at the request and for the account of this corporation, has expended the sum of sixty-six thousand one hundred twenty dollars and twenty-eight cents ($66,120.28) for the development of the properties and business of said Titangesellschaft m.b.H.; and

WHEREAS, said National Lead Company has advanced certain additional funds in connection with the business of this corporation and is willing to increase said advances to a total amount of ninety-nine thousand four hundred seventy-nine dollars and seventy-two cents ($99,479.72) to provide working capital necessary to the business of this corporation; and

WHEREAS, said National Lead Company has offered to accept fully paid and non-assessable shares of the capital stock of this corporation at par for all the expenditures and advances so made or to be made by it as hereinabove stated, to a total sum of one hundred sixty-five thousand six hundred dollars ($165,600); therefore be it

RESOLVED, that the officers of this corporation be and they hereby are authorized and directed to issue and deliver

to said National Lead Company or its nominee or nominees one thousand six hundred and fifty-six (1,656) shares of the fully paid and non-assessable capital stock of this corporation of the par value of one hundred dollars ($100) each upon cancellation by said National Lead Company of the present indebtedness of this corporation to it as aforesaid and upon the payment by said National Lead Company to this corporation in cash of an amount equal to the difference between the total par value of the shares herein authorized to be issued to it and the amount of said indebtedness.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the action of Dr. Gustav Jebsen, at a proprietors' meeting of Titangesellschaft m.b.H., held October 22, 1929, in consenting to and effecting on behalf of this corporation an increase in the capital of said Titangesellschaft m.b.H. from one million five hundred thousand Reichsmark (R.M. 1,500,000) to three million Reichsmark (R.M. 3,000,000), and assuming in the name and on behalf of this corporation one-half of said increased capital or seven hundred and fifty thousand Reichsmark (R.M. 750,000), be and it hereby is in all respects approved, ratified, and confirmed, and that the officers of the corporation be and they hereby are authorized and directed to execute and deliver such instrument as may be proper to confirm said action.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the action of the officers of the corporation in agreeing on its behalf with I. G. Farbenindustrie A.G., co-proprietor with this corporation of Titangesell-

schaft m.b.H., that each proprietor allow one million five hundred thousand Reichsmark (R.M. 1,500,000) of its investment in said Titangesellschaft m.b.H., over and above its share of the fixed capital thereof, to remain as a fixed loan to said Titangesellschaft m.b.H. bearing interest at rates from time to time current in Germany, and in assigning this corporation's share of said fixed loan to Metallurgical and Chemical Corporation, a New Jersey corporation, having investments in Germany, in exchange for the promissory note of said Metallurgical and Chemical Corporation to the order of this corporation for an equivalent amount in dollars, payable on demand after December 31, 1931, and bearing interest at a rate substantially equivalent to the rate payable on said fixed loan, be and it hereby is in all respects approved, ratified, and confirmed.

* * * *

The meeting then adjourned to No. 111 Broadway, in the Borough of Manhattan of the City of New York, in the County and State of New York.

The following resignation of F. M. Schmidt as a director of the corporation was presented to the meeting:

Titan Company, Inc., December 12, 1929.

Dear Sirs:

The undersigned hereby tenders her resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ F. M. SCHMIDT

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of F. M. Schmidt as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Dr. Gustav Jebsen having been nominated as a director of the corporation in the place the place and stead of F. M. Schmidt resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Edward J. Cornish had been duly and unanimously elected a director of the corporation in the place and stead of F. M. Schmidt resigned, and he was declared to have been duly elected as such. Thereupon F. M. Schmidt retired from the meeting and Mr. Cornish took his place as a director therein.

The following resignation of Mr. John Milton Ferry as President of the Corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as President of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ JOHN MILTON FERRY

On motion duly made, seconded, and carried, it was duly and unanimously

Exhibit 49

RESOLVED, that the resignation of Mr. John Milton Ferry as President of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Edward J. Cornish having been nominated as President of the corporation in the place and stead of Mr. John Milton Ferry resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Edward J. Cornish had been duly and unanimously elected President of the corporation in the place and stead of Mr. John Milton Ferry resigned, and he was declared to have been duly elected as such.

The following resignation of L. A. Schmidt as a director of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders her resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ L. A. SCHMIDT

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of L. A. Schmidt as a director of the corporation be and the same hereby is

accepted and that the meeting proceed to the election of a successor in her place. Thereupon, Mr. Evans McCarty having been nominated as a director of the corporation in the place and stead of L. A. Schmidt resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Evans McCarty had been duly and unanimously elected a director of the corporation in the place and stead of L. A. Schmidt resigned, and he was declared to have been duly elected as such. Thereupon L. A. Schmidt retired from the meeting and Mr. McCarty took his place as a director therein.

The following resignation of Mr. Clarence W. Copping as Vice President of the Corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Vice President of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ CLARENCE W. COPPING

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Clarence W. Copping as Vice President of the corporation be and the

same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Evans McCarty having been nominated as Vice President of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and there being no further nomination, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Evans McCarty had been duly and unanimously elected Vice President of the corporation in the place and stead of Mr. Clarence W. Copping resigned; and he was declared to have been duly elected as such.

The following resignation of Mr. Adolph Denzau as Treasurer of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Treasurer of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as Treasurer of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a

Exhibit 49

successor in his place. Thereupon, Mr. Charles Simon having been nominated as Treasurer of the corporation in the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. Charles Simon had been duly and unanimously elected Treasurer of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was declared to have been duly elected as such.

The following resignation of Mr. Adolph Denzau as Secretary of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as Secretary of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as Secretary of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. M. Douglas Cole having been nominated as Secretary of the corporation in

the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. M. Douglas Cole had been duly and unanimously elected Secretary of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was [redacted] been duly elected as such.

[redacted] then entered upon the discharge of his duties as Secretary, after having been sworn to the faithful discharge thereof by the following written oath subscribed and sworn to by him, and, on motion duly made, seconded, and carried, it was ordered that a copy thereof be spread upon the minutes of the meeting.

The same is as follows:

Exhibit 49

TITAN COMPANY, INC.

OATH OF SECRETARY

STATE OF NEW YORK, }
COUNTY OF NEW YORK } ss.:

I, M. DOUGLAS COLE, do solemnly promise and swear that I will faithfully, impartially, and justly perform the duties of Secretary of TITAN COMPANY, INC., a corporation of the State of Delaware, according to the best of my ability and understanding.

Subscribed and sworn to }
before me this 12th day of } s/ M. DOUGLAS COLE
of December, 1929. }

s/ J. A. MARTIN

Notary Public Queens County No. 1310
Certificate filed in N. Y. County No. 764
Term expires March 30, 1930

The following resignation of Mr. John Milton Ferry as a director of the corporation was presented to the meeting:

December 12, 1929

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ JOHN MILTON FERRY

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. John Milton Ferry as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. William C. Beschorman having been nominated as a director of the corporation in the place and stead of Mr. John Milton Ferry resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Mr. William C. Beschorman had been duly and unanimously elected a director of the corporation in the place and stead of Mr. John Milton Ferry resigned, and he was declared to have been duly elected as such. Thereupon Mr. John Milton Ferry retired from the the meeting and Mr. William C. Beschorman took his place as a director therein.

The following resignation of Mr. Clarence W. Copping as a director of the corporation was presented to the meeting:

December 12, 1929

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

CLARENCE W. COPPING

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Clarence W. Copping as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Mr. Fred M. Carter having been nominated as a director of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and there being no further nominations, the same were closed, and, a ballot having been duly had, it was found and reported that Mr. Fred M. Carter had been duly and unanimously elected a director of the corporation in the place and stead of Mr. Clarence W. Copping resigned, and he was declared to have been duly elected as such. Thereupon Mr. Copping retired from the meeting and Mr. Carter took his place as a director therein.

The following resignation of Mr. Adolph Denzau as a director of the corporation was presented to the meeting:

December 12, 1929.

Titan Company, Inc.,

Dear Sirs:

The undersigned hereby tenders his resignation as a director of your corporation to take effect upon acceptance by your Board of Directors.

Very truly yours,

s/ ADOLPH DENZAU

Exhibit 49

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the resignation of Mr. Adolph Denzau as a director of the corporation be and the same hereby is accepted and that the meeting proceed to the election of a successor in his place. Thereupon, Dr. Gustav Jebsen having been nominated as a director of the corporation in the place and stead of Mr. Adolph Denzau resigned, and there being no further nominations, the same were closed and, a ballot having been duly had, it was found and reported that Dr. Gustav Jebsen had been duly and unanimously elected a director of the corporation in the place and stead of Mr. Adolph Denzau resigned, and he was declared to have been duly elected as such. Thereupon Mr. Adolph Denzau retired from the meeting and Dr. Gustav Jebsen took his place as a director therein.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the meeting proceed to the election of an additional Vice President, an Assistant Treasurer, and an Assistant Secretary of the corporation to serve until successors shall be chosen and qualified in their stead respectively.

Thereupon the following were duly nominated for the offices set opposite their respective names:

Vice President:	Gustav Jebsen
Assistant Treasurer:	Ragnar Juell
Assistant Secretary:	Sverre J. Henrikssen

Exhibit 49

There being no other nominations the same were duly closed and, a written ballot having been duly had in each instance, it was found and reported that the above nominated had been duly and unanimously elected to the offices set opposite their respective names and they were declared to have been duly elected as such.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the officers of the corporation be and they hereby are authorized, empowered, and directed in its name and behalf to grant to Mr. Andreas Ravnestad, of 24 Rue de la Pepiniere, Paris, France, a full and sufficient power of attorney to represent the corporation in all matters affecting patents and trademarks and applications therefor in all countries, with full power to sign in the name of the corporation any and all documents required in that connection and with full power of substitution.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the Guaranty Trust Company of New York, of 32 Lombard Street, London, England, be and it hereby is appointed Bankers of the corporation and that said Trust Company be and it hereby is instructed to honor the signature or signatures of the following officers of the corporation to all checks, bills, and other documents drawn or made payable with them, and to any order to withdraw any or all securities, short bills, or other property in their hands including any box or boxes and their contents:

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Edward J. Cornish,	President,
Evans McCarty,	Vice President,
Gustav Jebsen,	Vice President,
(any one of them), or	
Charles Simon,	Treasurer,
M. Douglas Cole,	Secretary,
Ragnar Juell,	Assistant Treasurer,
Sverre Henrikssen,	Assistant Secretary
(any two of them).	

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that Titan Co. A/S, of Fredriksstad, Norway, be and it hereby is constituted and appointed the sole agent and representative of the corporation for the sale of its products in all markets in which the corporation or its predecessor has reserved the right to sell, said Titan Co. A/S to be compensated for its services as said agent and representative by a commission on all sales made by it at a rate to be fixed from time to time by this Board and now for the time being fixed at a five per cent (5%); with power to said Titan Co. A/S to appoint subagents for such sale in any country, for the account and risk of the corporation, subject always to the approval of the corporation of all subagents so appointed and of the terms and conditions of their appointments; and that said Titan Co. A/S be and it hereby is granted the privilege of selling for its own account in the Scandinavian countries, including Finland and the Baltic States, at such prices and upon such terms as it may desire, any and all products purchased by it from the corporation.

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On motion duly made, seconded and carried, it was duly and unanimously

RESOLVED, that Dr. Gustav Jebsen, a Vice President of the corporation, be and he hereby is appointed General Manager of the business and affairs of the corporation in all countries foreign to the United States of America, with full power and authority to act for the corporation upon all matters arising in the ordinary course of its business in said countries, including the representation of the corporation at all proprietors' meetings of shareholders' meetings of companies in which the corporation owns a proprietary or stock interest, but subject always to the approval of this Board with respect to all matters involving the sale or pledge of, or grant of licenses under, or other disposition of the processes, patents, and patent rights of the corporation, or of its contract rights with respect thereto, or of any other fixed assets or properties of the corporation; and with specific authority for and on behalf of the corporation to file applications for letters patent or similar rights and extensions and renewals thereof in all countries of the world including the United States of America.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the contract of October 3/20, 1927, between Titan Co. A/S and Titangesellschaft m.b.H., heretofore transferred to this corporation, be modified so as to include in the designation "Territory of Titangesellschaft", therein employed, Poland and Portugal and, in the discretion of Dr. Gustav Jebsen, a Vice-President of the corpora-

tion, Italy, and the said Dr. Gustav Jebsen as Vice President of this corporation is hereby authorized, directed, and empowered to take all such steps as in his judgment may be advisable to effect a modification of said contract so as to include Poland and Portugal and, in his discretion, Italy in said designation "Territory of Titangesellschaft", employed in said contract.

On motion duly made, seconded, and carried, it was duly and unanimously

RESOLVED, that the officers of this corporation be and they hereby are authorized and directed to reimburse Titan Co. A/S from time to time for such proportion of the salaries of its employees and employees of A/S Titania as corresponds to the services rendered by such employees in the business of this corporation, and that the total increase in annual salaries of the employees of said companies in the amount of fourteen thousand Norwegian Kroner (Kr. 14,000), as submitted by Dr. Jebsen at this meeting, in so far as it affects this corporation under the above authorization, be and it hereby is approved.

There being no further business, on motion duly made, seconded, and carried, the meeting duly adjourned.

s/ ADOLPH DENZAU

.....

Secretary of the meeting.

s/ M. D. COLE

.....

Secretary.

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ITEM 8

Sigurd Anderson— Handles patent matters of Titan Company, Inc., in Europe under supervision of A. J. Ravnestad.

J. C. Asselin— Manager of Legal Department of Canadian Industries, Ltd.

L. J. Barley— Consultant and Advisor to British Titan Products; employee of Imperial Chemical Industries, and was in charge of the Commercial Development Department thereof which deals with new products. Presently in the armed forces of England.

Louis E. Barton— Was Technical Director of Research, Titanium Pigment Company, Inc., 1920-1934; Director Titanium Pigment Company, Inc., 1920-1936. Now retired.

H. O. Bates— Assistant Secretary, National Lead Company, 1921-1938; Assistant Comptroller, 1921-1938; Assistant Treasurer, 1923- ; Secretary, 1938-

R. G. Beck— Formerly in charge of Canadian Titanium Pigments, Ltd.

W. C. Beschormárt— Director, National Lead Company, 1924-1940; Vice President, National Lead Company, 1927-1938; Director, Titan Company, Inc., 1930-1938; Vice President, Titan Company, Inc., 1930-1938; Director, Titanium Pigment Company, Inc., 1923-1936; Director, United Lead Company, 1928-1944; Executive Committee, United Lead Company, 1928- Now retired.

M. Bruggemann— A Manager of Titangesellschaft m.b.H., and member of the Board of I. G. Second in charge of Leverkusen Plant.

F. M. Carter— Director, National Lead Company, 1920-1939; President, National Lead Company, 1933-1938; Director, Titan Company, Inc., 1930-1933; Director, Titanium Pigment Company, Inc., 1929-1936. Now retired.

M. Douglas Cole— Assistant Secretary, National Lead Company, 1920-1921; Secretary, National Lead Company, 1921-1938; Assistant Secretary, National Lead Company, 1938-1943; Secretary, Titan Company, Inc., 1930-1943. Now retired.

Edward J. Cornish— Director, Titan Company, Inc., (1930-1937); President, Titan Company, Inc., (1930-1937); Chairman of Board of Titanium Pigment Company, Inc., (1920-1935); Director, United Lead Company, (1920-1938); Executive Com-

Exhibit 50

ITEM 8 (continued)

Edward J. Cornish—(Continued)	mittee, United Lead Company, (1920-1938); President, United Lead Company, (1928-1938); Director Titanium Pigment Co., Inc., (1920-1936); Director, Societe Industrielle du Titane, (1929-1938); Director, Titan Co., A/S, (1929-1938). Deceased.
G. W. Corddry—(Cowdry)—	Salesman, 1932-38; Eastern Sales Manager, Titanium Division of National Lead Company, 1938-1940; General Sales Manager, Titanium Division, 1940-
H. B. Echkoff—	Assistant to Sigurd Anderson in handling patent matters of Titan Company, Inc., in Paris, France.
W. W. Plechner—(Flechner)	Research Chemist, Titanium Pigment Company, 1929-1934; Assistant Director of Research, Titanium Division of National Lead Company, 1935-1939. Deceased.
Claude F. Gavesché—	Director, National Lead Company, 1939- ; Manager, Titanium Division of National Lead Company, 1937- ; Assistant Manager of Titanium Division of National Lead Company, 1936-1937; Assistant Production Manager, 1933-1936; Director, Titan Company, Inc., 1938- ; Vice President, Titan Company, Inc., 1938- ; *Director, Titan Co., A/S, 1938- ; Director, British Titan Products Company Limited, 1938- ; Director, Canadian Titanium Pigments, Ltd., 1938-
I. D. Hagar—	Salesman, Titanium Pigment Company, 1921-1930; Eastern Sales Manager, Titanium Pigment Corporation, 1930-1936; General Sales Manager, Titanium Pigment Corporation, 1936-1937; Assistant Manager, Titanium Division, National Lead Company, 1937-
L. W. Haslett—	Director and President of Canadian Titanium Pigments Ltd., Director of Canadian Industries, Ltd.
J. B. Henrich—	Assistant Secretary of National Lead Company, 1943- ; Secretary of United Lead Company, 1944- ; Assistant to Manager of Patent Dept. of National Lead Company, 1937-1943).
S. J. Henrikssen—	Member of Board of Societe Industrielle du Titane, and Manager of its office and current business; Assistant to Dr. Jebsen; Assistant Secretary, Titan Company, Inc. Director, British Titan Products Company, Limited; Director, Societe Belge du Titane.

*Present status unknown due to European War.

Exhibit 50

ITEM 8 (continued)

E. T. Henry— Manager of the Patent Section of the Legal Department of Canadian Industries, Ltd., having supervision of patent matters for Canadian Titanium Pigments, Ltd.

Mr. Holm— Was a Director of I. G.—handled sales. Retired.

Ragnar Iuell— Assistant Treasurer, Titan Company, Inc.; Director, Societe Belge du Titane. Employee of Titan Co. A/S.

Gustav Jebsen— Director, Titan Company, Inc., 1930- ; Vice President, Titan Company, Inc., 1930- ; *Director, Societe Industrielle du Titane, 1938- ; *Manager, Titangesellschaft m.b.H., 1938- ; *Director, Titan Co. A/S, 1929- ; *Managing Director, Titan Co. A/S, 1938- Director, British Titan Products Company Limited, 1938- ; *Director, Societe Belge du Titane, 1938- ; *President, Societe Belge du Titane, 1938- ; *Director, A. S. Titanis, 1938- ; *Director, The Jossingfjord Manufacturing Co. A/S., 1938-

Charles F. Kaegebein— Manager, Patent Department of National Lead Company, 1937- ; Assistant Secretary of Titan Company, Inc., 1937-1944; Secretary of Titan Company, Inc., 1944-

Hans Kühne— Director of I. G. in charge of the Leverkusen Plant of I. G. and several of their other Plants. Director, Titangesellschaft m. b. H.

Emile Lobstein— Former President of Societe du Minera & Industrielle, Franco-Brazilian. Deceased.

Evans McCarty— Director, National Lead Company, 1922-1933; Vice President, National Lead Company, 1927-1933; Director, Titan Company, Inc., 1930-1933; Vice President, Titanium Pigment Company, Inc., (1929-1933); Vice President, Titan Company, Inc., 1930-1932; Director, United Lead Company, 1920-1933; Executive Committee, United Lead Company, 1920-1933; Vice President, United Lead Company, 1928-1933; Director, Titanium Pigment Company, Inc., 1920-1933; Director, Societe Industrielle du Titane, 1929-1933; Director, Titan Co., A/S, 1929-1933. Deceased.

Joseph D. Meredith— Director, Titanium Pigment Company, Inc., 1920-1936. Deceased.

*Present status unknown due to European War.

Exhibit 50

ITEM 8 (continued)

William F. Meredith—	Director, National Lead Company, 1933-1943; Director, Titanium Pigment Company, Inc., 1920-1936; Chairman of the Board of Titanium Pigment Company, Inc., 1936; President, Titanium Pigment Company, Inc., 1920-1935. Deceased.
B. T. Minter—	Secretary of British Titan Products Ltd.
A. S. Moses—	General Manager, Titanium Pigment Co., 1923-1933; Vice President, National Pigments & Chemical Company, 1923-1933; Chief Engineer, National Lead Company, 1933-1937. No longer connected with Company. Retired on pension on May 1, 1937.
A. V. Purvis—	Former President and Director of Canadian Industries Ltd. Resigned to take charge of the British Purchasing Commission in U. S. A. Killed in airplane crash.
Frederick Raspe—	Manager and Technical Director of Titangesellschaft.
Andreas Ravnestad—	In charge of patent matters of Titan Company, Inc., in Europe, and Technical Assistant to Dr. Jebsen. Employee of Titan Co. A/S.
L. B. Robinson—	Alternate for members of Board of British Titan Products Ltd., and employee of Imperial Smelting Industries.
W. S. Robinson—	President and principal stockholders of Imperial Smelting Industries. Now retired.
Fletcher W. Rockwell—	Director of National Lead Company, 1926- ; President of National Lead Company, 1938- ; Vice President of National Lead Company, 1937-1938; Director, Titan Company, Inc., 1937- ; President, Titan Company, Inc., 1938- ; Director, United Lead Company, 1928- ; Executive Committee, United Lead Company, 1928- ; President, United Lead Company, 1944- Director, Titanium Pigment Company, Inc., (1920-1936); *Director, Societe Industrielle du Titane, 1938- ; Director, Goodlass Wall and Lead Industries, Ltd., 1938- ; *Manager, Titangesellschaft m.b.H., 1938- *Director, Titan Co. A/S, 1938- ; Director, British Titan Products Company Limited, 1938- ; Director, Canadian Titanium Pigments Ltd., 1938-

* Present status unknown due to European War.

Exhibit 50.

ITEM 8 (continued)

R. M. Roosevelt—	Director, Titanium Pigment Co., Inc., 1935-1936. No longer connected with National Lead Company or any of the designated companies.
L. W. Ryan—	Director of Research, Titanium Pigment Corporation, 1928-1933. No longer connected with National Lead Company or any of the designated companies.
Greville Smith—	Director, Canadian Titanium Pigments Ltd.
Leonard Smith—	In charge of Foreign Relations Department of Imperial Chemical Industries, Ltd.
Charles J. Stopford—	Managing Director of British Titan Products, Ltd. 1938-
H. S. Tasker—	Chairman, British Titan Products Ltd.; Director, Goodlass Wall & Lead Industries, Ltd.
A. Thompson—	Formerly Director of Titanium Pigment Company, Inc., 1920-1933.
A. J. Thompson—	Managing Director of R. W. Greef & Company, Ltd., Alternate Member of the Board of British Titan Products, Ltd.
J. L. Turner—	Special Assistant to Dr. Thompson, National Lead Company Research Laboratories, 1928-1934; Director of Research, Titanium Pigment Company, 1934-
J. D. Vleeschouwer—	Manager, Societe Belge du-Titane, 1938-
Max Warburg—	Former head of M. M. Warburg & Company, Hamburg, Germany.
H. T. Warshow—	Vice President, National Lead Company; Director, National Lead Company; Comptroller and Auditor of Titan Company, Inc.
W. F. Washburn—	Chemical Engineer, Titanium Pigment Company, 1921; Superintendent, St. Louis Plant, 1925 (supervisory work there and in building Titanium Plant); Production Manager, Titanium Plant, 1934; Presently engaged as technical consultant on retainer basis.
Andrea Weber—	Member of the Board of I. G., and Director of one of the commercial departments.

Exhibit 51

Response to Paragraph 8 of the subpoena requiring a schedule of individuals giving

(1) present position;

(2) date of appointment to such position;

(3) date employed by du Pont; and

(4) their positions, if any, in any of the companies named in Paragraph (1) of said subpoena controlled by du Pont which are engaged in any phase of the titanium business.

S. L. ABRAMS	Asst. Director, Legal Dept., since Sept. 11, 1940. Employed Aug. 11, 1916.
W. J. BEADLE	First Asst., Treasurer's Dept., since Feb. 16, 1942. Employed May 1, 1928, Development Dept., as Technical Investigator. July 1, 1929, appointed Asst. Director Development Dept.
C. H. BIESTERFELD	Advisory Director of Legal Dept. and Head of Patent Division since June 1, 1926. Employed June 1, 1926.
J. E. BOOGE	Research Director, Pigments Dept., since Jan. 1, 1936. Employed June 25, 1917. Beginning Feb. 1, 1926, Lithopone, Dry Color and Pigment Section, Paint Dept., Newark. Beginning Jan. 1, 1928, Technical Director, Lithopone Division, Newark. Beginning Aug. 1, 1931, transferred to Krebs Pigment and Color Corporation. Beginning May 1, 1935, Research Director, Krebs White Pigments Division.
HAMILTON BRADSHAW	Retired October 1, 1941. Asst. Director, Chemical Dept., from Nov. 1, 1924. Employed Aug. 1, 1905. Asst. Director, Experimental Station, from Jan. 1, 1913 to Oct. 31, 1916. Director, Experimental Station, from Nov. 1, 1916 to Dec. 12, 1920. Asst. Chemical Director from Dec. 12, 1920 to Nov. 1, 1921. From Nov. 1, 1924 to Oct. 1, 1941, Asst. Director, Chemical Dept.

Exhibit 51

LAMMOT DU PONT	Employed Mar. 8, 1902. Sept. 8, 1915—Director and member of Executive Committee. Mar. 23, 1916—Vice-President. Oct. 30, 1918—Member of Finance Committee. Apr. 18, 1919—Chairman of Executive Committee. Mar. 15, 1926—President of Company. May 20, 1940—Chairman of Board.
H. H. EWING	Investigator, Development Dept., since March 1, 1941. Employed April 8, 1918. Beginning March 1927, Asst. Mgr., London Office. Beginning July 1930, Mgr., London Office. Beginning January 1936, Asst. Director of Development Division, Electrochemicals Dept.
J. P. HANCOCK	Patent Attorney, Legal Dept., since employment July 1, 1935.
T. R. HANLEY	Head, Foreign Relations and Customs, Legal Dept., since Sept. 11, 1940. Employed as attorney March 1, 1928.
J. K. JENNEY	Asst. Director, Foreign Relations Dept., since Aug. 1, 1930. Employed Oct. 19, 1925. Appointed Secretary of Foreign Relations Committee Oct. 17, 1927.
G. LUTZ	Deceased, August 1936. Formerly Patent Attorney for both Krebs Pigment & Color Corporation and Grasselli Chemical Co. from 1931 to August 1936.
C. M. LYMAN	Control Mgr., Pigments Dept., since Jan. 1, 1936. Employed Nov. 1, 1928. November 1928 to July 1, 1930, Asst. to Secretary and Treasurer of Krebs Pigment & Chemical Co. Director, Krebs Pigment and Color Corporation from March 16, 1936 to Dec. 31, 1942. Control Mgr., Grasselli Pigment Division, Newark, N.J., from July 1, 1930 to August 1, 1931. August 1, 1931 to June 30, 1933, Asst. Secretary and Treasurer, Krebs Pigment and Color Corporation. July 1, 1933, Secretary and Treasurer of Krebs Pigment and Color Corporation until Dec. 31, 1942.
C. R. MUDGE	Retired as Director of Legal Dept. on Sept. 11, 1940. Appointed Director, Legal Dept., June 1, 1926. Employed Sept. 11, 1903. Director of Company since March 14, 1932.

Exhibit 51

Z. PHELPS

Asst. Gen. Mgr., Pigments Dept., since Jan. 1, 1936.
Director, Krebs Pigment & Color Corp. from Mar. 18, 1935 to Dec. 31, 1942.
Employed Sept. 4, 1917.
Beginning Nov. 1, 1927, Asst. Division Mgr., Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept.
Beginning Jan. 1929, Asst. Mgr., at Fairfield, Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept.
Beginning May 1, 1929, Vice-Pres. and Gen. Mgr., Krebs Pigment and Chemical Co.
Beginning Sept. 1, 1930, transferred to Grasselli Chemical Co. and appointed Asst. Division Mgr., Pigment Div.
From Aug. 1, 1931 to Dec. 1935, Vice-Pes. Krebs Pigment and Color Corporation.

FREDERICK W. PICKARD

(Retired) August 1, 1935.
Employed July 1, 1904.
Jan. 1, 1908—Asst. Mgr., Denver Office.
Oct. 25, 1909—Mgr., Pittsburgh Office.
Dec. 1, 1917—Director of Sales, Wilmington Office.
Oct. 30, 1918—Director of Company, member of Executive Committee, and a Vice-President in charge of Sales Dept.

WILLIAM RICHTER

(Retired) Nov. 11, 1944.
General Mgr., Fabrics and Finishes Dept. from Nov. 1, 1932.
Employed August 1, 1917.
Beginning Nov. 1, 1921, Cellulose Products Dept., Service Manager.
Beginning Apr. 1, 1922, Cellulose Products Dept., Manager, Control Division.
Beginning Oct. 1, 1924, Paint Dept., Acids and Heavy Chemicals, Division Mgr.
Beginning Nov. 1, 1924, Paint Dept., Phila. Works Production, Division Mgr.
Beginning Feb. 15, 1925, Paint, Lacquer & Chemical Dept. (N.Y.), Asst. Gen. Mgr.
Beginning Mar. 16, 1925, Paint, Lacquer & Chemical Dept. (Wilm.), Asst. Gen. Mgr.
Beginning Nov. 1, 1927, Paint, Lacquer & Chemical Dept., General Manager.
Director of Krebs Pigment & Color Corp., July 20, 1931 to Dec. 19, 1935.
Director of Krebs Pigment & Chemical Co., Sept. 16, 1929 to July 31, 1931.

Exhibit 51

WILLIAM RICHTER (Continued)	Director of Grasselli Chemical Co., Nov. 1928 to Oct. 31, 1936. Director of Company from May 19, 1930, to date.
C. H. RUPPRECHT	Deceased—Sept. 10, 1944. General Mgr., Pigments Dept., Jan. 1, 1936 to Sept. 10, 1944. President and Director Krebs Pigment & Color Corp. from Aug. 1, 1931 until Dec. 31, 1942. Employed Dec. 1, 1919. Beginning Dec. 1, 1920, Sales Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Dec. 1, 1921, District Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning March 1, 1924, Sales Mgr. of Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Nov. 9, 1924, Sales Mgr., Newark Lithopone, Dry Color and Pigments Section of Acid and Heavy Chemicals, Paint Dept. Beginning Dec. 31, 1928, transferred to Grasselli Chemical Co., Cleveland Sales Dept. as Pigments Division Sales Mgr. From July 1, 1930 to August 1, 1931, Division Mgr., Grasselli Chemical Company, Newark Division.
DR. FIN SPARRE	Deceased—Oct. 7, 1944. Formerly Director, Development Dept., since May 12, 1919. Employed Oct. 28, 1903. Asst. Director, Development Dept., April 1, 1918. Director of Company beginning May 19, 1930.
WENDELL R. SWINT	Director of Foreign Relations Dept. since Aug. 1, 1930. Employed Aug. 1, 1911. Mgr., London Office, April 1, 1926 to July 31, 1930.
E. C. THOMPSON	General Mgr., Grasselli Chemicals Dept., since April 1, 1942. Employed August 1, 1917. Beginning Feb. 1, 1919, Heavy Chemicals & Pigments Dept., Supt. Beginning April 1, 1920, Heavy Chemicals & Pigments Dept., Asst. Director. Beginning Nov. 1, 1921, Paint Dept., Asst. Gen. Mgr.

Exhibit 51

E. C. THOMPSON (Continued)

Beginning Oct. 1, 1924, Paint and Varnish Dept., Asst. Gen. Mgr.
Beginning Feb. 17, 1925, Paint, Lacquer & Chemical Dept., Asst. Gen. Mgr.
Beginning Aug. 1, 1925, Paint, Lacquer & Chemical Dept. Division Mgr.
Beginning Dec. 1, 1928, Vice-President of Grasselli Chemicals Company.
Director Krebs Pigment & Color Corp., July 20, 1931 to March 18, 1935.
Director of Krebs Pigment & Chemical Company, June 17, 1929 to July 31, 1931.
Director of Grasselli Chemical Company, Dec. 1, 1928 to Oct. 31, 1936.
Beginning Nov. 1, 1936, Grasselli Chemicals Dept., Asst. Gen. Mgr.

NOTE: Messrs. L. J. Barley
R. B. Beck
WM. A. BURTON
N. F. CHASE
L. W. HASLETT
A. B. PURVIS
GREVILLE SMITH

are not now, and never have been, employed by du Pont or any of the Companies named in Paragraph (1) of the subpoena controlled by du Pont which are engaged in any phase of the titanium business

Exhibit 51A

KREBS PIGMENT & COLOR CORPORATION

DIRECTORS

From August 1931 to March 1, 1935

W. D. Ticknor
T. P. Walker
M. F. Chase
C. H. Rupprecht
T. S. Grasselli
E. W. Furst
E. C. Thompson
William Richter

From March 1935 to March 1936

A. B. Echols
W. F. Harrington
William Richter
C. H. Rupprecht

From March 1936 to December 1942

C. H. Lyman
Zack Phelps
C. H. Rupprecht

OFFICERS

Title	Name

From August 1931 to March 1934

President	C. H. Rupprecht
Vice-President	T. P. Walker
Vice-President	Zack Phelps
Treasurer	W. U. Reisinger
Secretary	W. U. Reisinger
Ass't Secy & Ass't Treas.	C. H. Lyman

Exhibit 51A

Title	Name
From March 1934 to March 1935	
President	C. H. Rupprecht
Vice-President	T. P. Walker
Vice-President	Zack Phelps
Treasurer and Secretary	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed
From March 1935 to March 1936	
Chairman of the Board	W. F. Harrington
President	C. H. Rupprecht
Vice-President	Zack Phelps
Secretary and Treasurer	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed
From March 1396 to December 1942	
Chairman of the Board	C. H. Rupprecht
President	C. H. Rupprecht
Vice-President	Zack Phelps
Secretary and Treasurer	C. H. Lyman
Ass't Sec'y & Ass't Treas.	L. C. Reed

Exhibit 52 589

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 24th December 1925

EVANS McCARTY ESQ.,
Vice President of the United Lead Co.,
111 Broadway, NEW YORK.

CONFIDENTIAL. Dear Mr. McCarty,

Confirming my letter of the 13th ult. Mr. White is still in treaty with the Brimsdown Company. He has just informed me that Hopkin & Williams do not wish to part with any of their preference shares and he has asked me if my Company would consent to sell to the Brimsdown its 10,000 preference shares, being half of the preference Capital of the Company.

My co-Directors here being all on leave and having to consult also our Brazilian colleagues, I will not be able to decide before beginning of next month, but my personal opinion is that owing to the present exchange rate of the franc, our Company would perhaps have interest to sell its shares at £2.—keeping only its ordinary shares.

I wonder how the Brimsdown Co. has the financial means to make this purchase. I suspect that the Auer Co., which is said to control already the Travancore Minerals Co., expects to get also the control of Hopkin & Williams Travancore Co. in order to control also its monazite and zircon production, but this cannot harm the interests of our Company as our monazite and zircon deposits are far more important than the Indian ones.

Exhibit 52

Should the question of purchase of these 10,000 preference shares interest your Company, you could send us a cable and I would ask Mr. White if the Hopkin & Williams Travancore's Board would approve a transfer to your Company or to an English firm representing the interest of your Company as the Board has the right to refuse transfer. Of course, such purchase should give you the control of the ilmenite production.

With my renewed best wishes to you for the coming Year,

I remain, dear Mr. McCarty,

yours very truly,

EMILE LOBSTEIN.

Exhibit 53

January 8, 1926

MR. EMILE LOBSTEIN
Societe Miniere & Industrielle Franco-Bresilienne
20, Boulevard Montmartre, Paris, France

DEAR MR. LOBSTEIN:

I am very much interested in your letter of Dec. 24th regarding the possible sale to us of your preference shares in Hopkins & Williams (Travancore) Ltd., and have just telegraphed you as per copy enclosed.

The Brimsdown Lead Company is now owned by the Associated Lead Manufacturers, Ltd., a very strong and well financed company. As stated in my letter to you of Dec. 28th, I do not see how they can carry on successfully the business of manufacturing titanium pigments on a commercial basis without infringing the patents owned by the Titanium Pigment Co., Inc., or the Titan Company.

As stated in my telegram, I think that the Titanium Pigment Co. would be interested in the purchase of your preference shares in Hopkins & Williams (Travancore) Ltd., provided such purchase would give them the control of the present stock of ilmenite and the future production.

I hardly know enough about the present position of the Company to know whether or not £2.0.0 per share is a fair price. A memorandum made when you and I discussed this subject with Mr. White in London in 1924, states that the properties, leases, etc. stand on the books at £41,000, and that the Company had on hand at that time 3,000 tons of Monazite valued on the books at £12.0.0 per ton. At that date, advances to the Company amounted to £25,000 including directors fees renounced by the directors amounting

to £9,000. We do not, however, know what changes may have taken place in the Company's position since that time. We would also be interested in learning whether the preference shares have any voting rights, and if so, under what conditions. Inasmuch as you do not mention the common shares held by your Company I assume that you do not care to sell them at this time.

It is immaterial to the Titanium Pigment Company whether title to the shares be taken in the name of an English or an American corporation.

Hoping to hear further from you regarding this matter, and thanking you for bringing it to our attention, I am, with kind regards,

Yours very truly,

Vice President

P. S. Are dividends being paid on the preference shares, and if so, at what rate?

Exhibit 54

UNITED LEAD COMPANY

Confirmation of Telegram

WEEK END LETTER JANUARY 8, 1926

LOBSTEIN
PEROBA
PARIS

REFERRING LETTER TWENTYFOURTH WOULD BE INTERESTED IN PURCHASE OF SHARES REFERRED TO IF SUCH PURCHASE WOULD GIVE CONTROL OF ILMENITE PRODUCTION CAN TAKE TITLE IN NAME OF ENGLISH COMPANY IF NECESSARY STOP DO PREFERENCE SHARES HAVE VOTING RIGHTS

MCCARTY

Exhibit 55

SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE

Socte Anme Au Capital de 4,000,000 De Francs Dont 1,000,000 Rembourse

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20 Boulevard Montmartre—
Paris, le 1st April 1926

Evans McCarty Esq.
Vice President of the United Lead Company,
111, Broadway, NEW YORK

Dear Mr. McCarty,

I beg to confirm my letter of the 12th ult.

I inform you confidentially that the Brimsdown Co. has purchased our preference shares at the price of £2 per share which we had fixed.

I regret that I have not been able to secure for your group the control of our friends' deposits of ilmenite to which our purchaser attaches a great importance.

Our Directors in Brazil inform us that the Works have been disturbed by torrential rains.

We have received last week a cable from the Director of our Works informing us that the stock amounted to 900 tons and that he expected to produce 500 tons till end of April, and our Directors cabled that bags were on the way to the Works, that they could not ship in March but would ship on the 11th April.

I hope that there will be no new delay.

With kind regards, I remain, dear Mr. McCarty,

Yours very truly,

SOCIETE MINIERE & INDUSTRIELLE FRANCO-BRESILIENNE
Le President

s/ EMILE LOBSTEIN

Exhibit 56

April 16, 1926

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Bresilienne
20 Boulevard Montmartre
Paris, France

Dear Mr. Lobstein:

I beg to acknowledge receipt of your letter of the 1st inst. and note that the Brimsdown Lead Company has purchased your preference shares in Hopkins & Williams (Travencore, Ltd.) at £2.0.0 per share, and presume that the Brimsdown Company has also purchased the ilmenite which Hopkins & Williams had on hand.

Your interest in attempting to secure this material for us is very much appreciated. I am not sure that the Brimsdown Lead Company will be successful in their proposed attempt to manufacture titanium pigments, and it may be that we will have another opportunity to purchase the Hopkins & Williams ilmenite should we care to do so at that time.

We have received a cable from your office in Brazil informing us that 500 tons of ilmenite would be shipped this month on the S/S "Manchurian Prince", and we are hopeful that shipments will be made regularly from now on.

We have not as yet received the map of Guaraparie harbor which you promised to send us so that we have been unable to do anything toward chartering a vessel to carry bulk cargoes.

With kind regards, I am,

Yours very truly,

Vice President

Exhibit 57

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 24th September 1926

Evans McCarty Esq.,
Vice President of the United Lead Co,
111, Broadway, NEWYORK.

Dear Mr. McCarty,

I hope you had a pleasant trip home.

We have received advice of the shipment of 294 tons ilmenite shipped on the 1st August on s/s "Campos" and 205T980 shipped on the 20th September on s/s "Camamau".

I informed you that we have secured again the directorship of our Works by our former Director, Mr. P. Barrozo; he has only been able to take charge of the Works beginning of this month and we hope that he will secure now regular shipments.

We have transmitted to our Directors in Brazil your wish to receive a chart of the port of Guarapary as soon as possible.

Our Company is presently completing an agreement with the Auergesellschaft which will stabilize the prices of our rare earths products. At the exchange, shares of our Company which had been neglected last month are again in sensible demand.

I am, dear Mr. McCarty,

yours very truly,

EMILE LOBSTEIN

Exhibit 58

October 8, 1926.

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Bresilienne
20 Boulevard Montmartre, Paris, France

Dear Mr. Lobstein

I have your letter of Sept. 24th which crossed mine of the same date, and note that your new director Mr. Barrozo was not able to take charge of the work until Sept. 1st. I hope that he will soon have the situation in hand, and be able to make regular shipments of ilmenite.

Referring to your comment regarding the shares of your Company, I will appreciate it if you will let us know if anything develops in that connection that you think would be interesting to us. I have in mind your statement to me that it might be quite possible to secure a sufficient number of shares so that between your interests and our own we could control the Company. Any time that you have anything definite to suggest in regard to that matter, we will be glad to consider it.

With kind personal regards, I am,

Yours very truly,

Vice President

Exhibit 59

Letterhead of

SOCIÉTÉ MINIÈRE & INDUSTRIELLE FRANCO-BRÉSILIENNE

Paris, le 22nd October 1926

EVANS MCCARTY ESQ.,
Vice President of the United Lead Co.,
111, Broadway, NEW-YORK.

DEAR MR. MCCARTY,

I duly received your favours of 24th ult: and 8th inst.

We have not yet received any letter from Mr. Barrozo since he resumed the directionship of our Works. On the 9th inst. we received a cable from Mr. Pierre Lobstein who was, as I told you, Director of the Works on account of the Syndicate, advising us that his return back to France was postponed owing to the absence of Mr. Barrozo, we concluded from this cable that the arrival of Mr. Barrozo had been delayed.

We have been advised by our co-Directors at Rio that they sent you under registered cover on the 13th ult. the charter of the harbour of Guarapary; we hope that it will convince your shipping Agents of the possibility to enter into the port.

Our Company still recently bought the warehouse and wharf belonging to Mr. Borges alongside which formerly came 1200/1500 tons steamers. This wharf is a few hundred meters far from our works with which it is connected by railway and shipping in bulk or in bags is very easy.

Our Directors in Rio wrote to us that unhappily small tonnage steamers do no more arrive in Brazil, coal ships

Exhibit 59

and Lloyd Brazileiro's steamers have from 4,000 to 5,000 tons and are then too large to easily work in the port.

If the charter you have received confirms that the depths are sufficient, we are convinced that in acquiring a 1500 tons steamer freight would be very cheap and bags would be spared.

I answer to the part of your letter referring to shares of our Company. In our meeting of 28th July last, I mentioned to you the rather important purchases made by an American Bank and that it seemed likely to me that your Company and Auer Company alone were interested in these purchases.

I told you that with the former capital of our Company of Frs: 4.000.000, divided into 40.000 shares—out of which 30.000 capital shares not reimbursed and 10.000 reimbursed shares—, the Directors' group and their friends had up to now controlled the Company, but with the issue of 50.000 new shares the situation could be modified. You told me that your Company would perhaps foresee the purchase of shares in order to reinforce the position of the leading group.

The market of our Company's shares having been nearly void during the holidays' period, I could not give you any new information about the buyers' group.

From information which was given me since beginning of this month, there were uninterrupted transactions at the rates of 220 to 230 Frs. for capital shares; owing to the general reaction of the Stock Exchange they have fallen to Frs: 210.—but it is most probable that they will rise again.

I have been told that considering the great division of shares, it seems impossible to be able to obtain some thou-

sand shares on the market unless to pay for them much higher prices, but that it would perhaps be possible to get 10.000 shares which belong to a group who would perhaps decide to make a sale in order to realize an immediate profit if they can obtain a sufficient price which I was told would be about 250 Frs.

I believe that if your group possessed on its side 10.000 shares, we would have practically the control of the business of the Company.

I send you herewith Statutes, report and balance sheet of our Company up to 31st December 1925. Our Assets in Brazil which are mentioned on this balance sheet for Frs: 1.186.000.— had been redeemed for more than Frs: 600.000.— and these Assets of Frs: 1.800.000.— are at their value estimated before 1914; we have since the settlement of this balance sheet reimbursed 112 contos of reis to the Syndicate which had undertaken the works on account of our Company.

As to our Assets in France, they can be considered nearly for the whole as Gold Assets.

As I told you, since the increase of its Capital, the Company has reimbursed all its debts; it now has an easy treasury and it realises satisfactory profits from the manufacture of various chemical products. I let it to you to examine whether it may be convenient for your Company to acquire this important lot of shares in case it should be possible to obtain it.

If your Company is willing to conclude the purchase of these 10.000 shares which I am told to be eventually free for sale, I am at your disposal to have the business negociated with the Bank which you would design to conclude this purchase. But owing to the uninterrupted demand

which exists on the shares of our Company and on the other side the interest you may have to take advantage of a favorable rate of exchange of the dollar, it is necessary that your Company should hurry to take a decision and charge me even by cable to make a purchase proposal.

With kind regards,

yours very truly,

EMILE LOBSTEIN

Exhibit 60

November 3, 1926.

Mr. Emile Lobstein, President
Societe Miniere & Industrielle Franco-Brasilienne
Paris, France

Dear Mr. Lobstein:

Many thanks for your very interesting letter of October 22nd with enclosures.

Other matters have prevented my giving these documents the study and attention which their importance warrants, and I am, therefore, unable to give you a quick decision in the matter. The subject is of interest to us, however, and will have our serious attention.

I regret to have to tell you that the chart of the Guarapary harbor which your directors at Rio informed you was sent under registered cover on Sept. 13th has not been received either by the Titanium Pigment Company or myself. This is unfortunate as nothing can be done toward chartering a small steamer until we have the necessary information regarding the harbor.

I am sorry that Mr. Barrozo's return was delayed, and hope that under his management there may be an important increase in the production of ilmenite. The Titanium Pigment Company is not in immediate need of supplies, but it will be more satisfactory for you and for us to have a larger production.

Thanking you for your suggestion with respect to the possible purchase of a block of shares in your Company, a matter to which I will return at the first opportunity, I am, with kind personal regards,

Yours very truly,

Vice President

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Exhibit 61

Dr. G. Jebsen

Berlin,
Hotel Der Kaiserhof
March 4, 1927

Evans McCarty, Esq.
c/o United Lead Co.,
111 Broadway,
New York, U. S. A.

Dear Mr. McCarty:—

I left Norway, as intended, Saturday the 19th of February and called at Mr. Warburg's office, Hamburg, Monday, using the opportunity at the same time also to see our representatives in Hamburg, Messrs. Christensen, Schwartz & Co., 40, Jungfernstiog. I left Monday night and arrived in Paris Tuesday afternoon. Mr. Lobstein was interested to know whether we had talked together about his propositions regarding the acquisition by the National Lead Co. of shares in his Company. I told him that we had not discussed it much and that I had understood that you had written to him about the matter. I gave him to understand that you considered the situation with regard to his deliveries of ore unsatisfactory and that you also were awaiting information as to the export harbour near his mines. He said he had sent you a chart of the harbour. He was, of course, very interested with regard to the position the Titan Co. will take as to the purchase of the shares in Société Industrielle du Titan belonging to the group of Société Minérais et Métaux.

I negotiated that matter with Mr. Morigeault on the basis of the balance sheet of the Company of the 1st of January of this year. You remember perhaps that this Com-

pany has a share capital of 10 Million Francs, of which 2½ Million Francs are paid in. The Company has operated since the 4th of July 1925. Its profit and loss account shows a loss of about 285.000 Francs. Further appears under the assets "Frais de Constitution" to an amount of 136.000 Francs. Further grinding machinery and a shed to the amount of 111.000 Francs. The rest is working capital.

In the balance there are 500.000 Francs in banks and on the other hand the Company owes to the Société Minérais et Métaux 1.200.000 Francs. The Company has a stock of raw material for more than necessary which, however, stands in the balance at reasonable prices, that the realization of the stock under the present circumstances is calculated to give a surplus of about 80.000.—Francs after deduction of general expenses and interest on the loan, the realization to take place in 3 to 6 months. A dissolution of the Company will probably bring the shareholders loss of between 400.000 and 500.000 Francs on the paid in amount of 2.500.000 Francs giving 2.000.000.—Francs or 20 francs per share, on which 5 Francs have been paid in. I offered this sum of 20 Francs per share to Société Minérais et Métaux and the transaction to take place at once. Mr. Morigeault pointed out, however, that when we will continue with the Company, the "Frais de Constitution" of 136.000.—Francs and the sum of 111.000 Francs paid for publicity, which were transferred to the profit and loss account, could not be considered losses, neither would there be any realization of the machinery and the shed, and also the work done represented a certain goodwill, wherefor 25 Francs per share should be a reasonable price. I told him that I had not made up my mind whether to continue with this Company or to dissolve it and start on an entirely

new basis. I reminded that when Société Minér is et Métaux entered into the arrangements with Lobstein, I had frankly asked him and Mr. Vincent on what basis they were interested in this matter, as I could not see that they had any special reason for taking up the development of this industry. They had, however, assured me about their interest and out of loyalty to Mr. Lobstein and his group, who were desirous to have this arrangement done before the expiration of the contract of 3 years of co-operation which we had with Mr. Lobstein—I agreed to certain alterations in order to enable the arrangement to be done. I told him further that it was not my intention to complain about the change of attitude, which Société Minérais et Métaux had taken, as I was convinced that Mr. Vincent and Mr. Mérigeault had gone into the enterprise in perfectly good faith and that it was only later that they had found out that the enterprise was not in their line being much more of a chemical industry than a metallurgical one.

But anyhow, the result was that they had placed us in an inconvenient position leaving us with the Company and bound to certain arrangements, which may make it more difficult for us to find other co-operators in France, if we wanted this. On the other hand, if we dissolve the Company, we will be free and can take up negotiations on a clear basis. I told him further that the Société Minérais et Métaux had reserved for themselves the right of support from the other shareholders until the end of June, if they wanted to dissolve the Company, I would ask him that our agreement should be arranged so that there would be still an opportunity of using that right and that I was willing to pay 25 Francs per share, if we did not make use of that right to dissolve the Company. After some considera-

tions on the part of Mr. Mérigeault he preferred then to have the price for the shares

a) in the case of the dissolution of the Company fixed at 21 Frcs. per share,

b) in the case of the continuation of the Company fixed at 24 Frcs. per share, which I agreed to.

I enclose a copy of the contract, from which you will see that the transaction has to take place on July 1st, 1927 and that the Société Minérais and Métaux sells us 50.000 shares; with which follow 16667 "Parts de Fondateurs" (1 part de fondateurs on 3 shares). Further we will probably also get in 2500 shares from 2 smaller shareholders of his group, and we have also taken the obligation to buy what may be offered us of 12.500 shares, which Société Minérais et Métaux desires to protect. Together with those shares follows also the corresponding quantity of "parts de fondateurs". We will have to inform the Société Minérais et Métaux within the end of May whether we wish the Company dissolved or not, in order to enable Société Minérais et Métaux to take the necessary steps with regard to the general meeting, etc., before the end of June, or exactly before July 7th.

In the meantime the Company will operate as hitherto, and Mr. Mérigeault has kindly offered in the management of the Company to follow my advice. The Company's activities at the present moment are practically only a development of the market, and as Mr. Gilbert is the selling agent and also a member of the Board of Directors, he will in reality be the man of activity in the Company under the present circumstances. I have talked the programme for the operation over with him, and it is understood that he

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and Mr. Mérigeault will co-operate. I have not told Mr. Lobstein and Mr. Gilbert about my arrangement with Mr. Mérigeault with regard to the shares, but only informed them that no definite decision is taken; Société Minérais at Métaux are willing to leave the question open 3 to 4 months which suits us well, as we are not prepared at the present moment to decide about the future management of the Company.

I am afraid that you will find this very complicated and that I trouble you with a considerable amount of details. My excuse is that I presume it is better to give you rather too much than too little information, and the whole situation over here is naturally complicated during the interval, until the National Lead Co. has taken over the Titan Co. shares and more definite lines are drawn up for our policy in Europe. In short, the decision with regard to the French situation is postponed as far as it can be done.

However, if we are not able within the middle or end of May to definitely decide what should be done in France, I think we will have to take over the shares on the basis of a continuation of the Company, and if we want after that time to make arrangements with any other group in France, the basis for an arrangement with Lobstein and his group will not be so good.

In order to resume the position in France with regard to the future, I beg to put down the following:

In favour of a continuation with Lobstein's group on the present basis speaks the following:

(1) We keep a certain control on the mines of "Franco-Brasilienne" through our contracts, the practical lines of which you are already informed about.

(2) The possible interests of the National Lead Co. for "Franco-Brasilienne".

(3) The avoidance of a dissolution of Société Minérais et Métaux.

Against the continued co-operation with Lobstein and his group on the present basis speaks the following:

(1) The group of Lobstein has not a technical and administrative organization of much value. The have one chemist, M. Sequard, who is very good for laboratory work of a high quality, and is probably of much value for their own chemical problems and may be useful to us, but that is all.

(2) Mr. Lobstein is a man of 76 years of age, and the Company has nobody to take his place when he retires.

The selling organization of the "Franco-Brasilienne" is represented by Etablissement Gilbert, which is the sales agent for the Ste. Ind. du Titane, and which, I think, will be available to us anyhow.

In a later letter I shall write you more with regard to the elements of a future organization as they exist at the present moment.

We have nobody able to take the whole management, and the development of an organization in France will probably demand a lot of my personal attendance. However, once formed, we will have an organization we can handle ourselves and which may in time be useful also in other respects for the National Lead Co.

It will though mean a slower development than if a satisfactory arrangement can be made with an important existing organization.

During my negotiations with Mr. Merigeault, he offered his advice as to which groups he considered of in-

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terest to cooperate with in France. He mentioned St. Gobain and Kuhlmann, but considered St. Gobain too little active, whereas Kuhlmann is very progressive.

I have always considered that Kuhlmann may be of interest because of its importance as a chemical industrial firm, and would probably have approached them a year ago, if Minerais et Metaux had not entered into the arrangement with Franco Brasilienne.

Of more interest from my conversation with Merigeault was however that he mentioned also Pissard and referred to him several times.

Pissard is, as you perhaps know, member of the Board of Minerais et Metaux and Mr. Vincent is a member of Pissard's French firm Ste. Couleurs. Although Merigeault said that he had not talked with Pissard, I can not entirely dismiss the thought that Merigeault acted on more than his own mind.

I mentioned to Merigeault Pissard's approach to you some years ago and said to him further that I was willing to discuss the question with Pissard, to see if an arrangement could be of mutual interest, but I would not call on Pissard on my own initiative. Mr. Merigeault was willing to talk to Pissard and write me.

In view of your mention of Pissard last time in New York, I thought, a conversation might be of interest, and it will not oblige you or me in any way.

During my negotiations with Merigeault I did not mention your purchase of the shares in the Titan Co., but I should not be surprised if they have an inkling of it. An arrangement with Pissard or Kuhlmann will probably lead to quicker results, but then we will be dependent on these cooperators and not be our own masters in the industry in France.

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I have been trying to give you the position without having made up my mind—what to advise to do. The situation is not cleared up sufficiently to have a definite opinion. The German situation is also to be considered in this connection. I am, however, afraid that the time from now until the end of May will be too short to have the situation as clear as desirable with regard to the question of a dissolution of Ste. Titane, if an arrangement with Pissard or Kuhlmann shall be considered seriously. Negotiations in Germany and France simultaneously, with the question of the concession from the Norwegian Government and the management of the Titan Co.'s current business can probably not be carried so far in three months—especially when I have just been away 2½ months in U. S. A., and when, moreover, your opinion and decision is wanted.

I am trying to keep you informed as things advance step by step and will appreciate very much to hear from you as soon as possible.

I write you another letter to-day, with regard to the German situation.

Mr. Thomsen was very satisfied with the sales in England last year, showing an increase of 61% above 1925.

In France the sales in 1926 were only very little above the previous year, as the exchange situation in the last part of the year had a very bad effect. Mr. Gilbert meant that Titaniumwhite has a good reputation in France as a product of high quality, but the tendency goes to the cheapest possible products at present and the trade has altogether been bad because of the exchange.

With kindest regards,

Yours very truly,

G. JEBSEN

Kindly excuse the appearance of these letters, but they were written by various typists in a typewriting office.

Exhibit 62

March 18, 1927

DR. G. JEBSEN
Titan Co. A/S
Fredriksstad, Norway

DEAR DR. JEBSEN:

I have time this afternoon for only brief comment with respect to your letter of March 4th regarding the position in France.

The situation is, as you say, quite complicated and it will take a little time to digest the information your letter contains. Apparently as a result of your conversations in Paris final decision with regard to the French company can be postponed for several months.

Should it be necessary, however, to make a decision in the meantime I would be inclined to favor taking over the shares of the Societe Minerais et Metaux and continuing the Societe Industrielle du Titane. This would at least insure the continuity of the business, and probably leave you in almost as good a position to deal with other interests as you would be if you dissolved the company. In this case as in other matters, however, we would, of course, be guided by your advice.

I find it a little difficult to form an opinion with respect to the desirability of an association with Mr. Pisart. He is an old acquaintance, and a very capable man, and his company is a very important one. On the other hand, his interests in lithopone are so large that it might be difficult to find a common interest. I hope to see him sometime during my visit to Europe, and to talk over the position with him. In the meantime, however, I see no reason why you should not talk with him if the opportunity offers.

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March 18, 1927

DR. G. JEBSEN

The firm of Kuhlmann is unknown to me, but I judge from your letter that they are chemical manufacturers of some importance. Copy of the contract for the purchase of the shares owned by the Societe Minerais et Metaux was not enclosed with your letter, but will probably follow by a later post.

I was very much pleased with the conditions I found in the St. Louis factory when I was there last week. The product is now of exceptionally good quality, and very uniform. Costs are being reduced, and as our sales are not quite up to production it has occurred to me that we might find it advantageous to ship some of the product to Europe during the summer instead of waiting for the German factory to be completed. This is a matter you might keep in mind although you perhaps will not want to come to a decision regarding it until you have Mr. Washburn's opinion as to the possibilities of the Norwegian factory, particularly in view of your new Blanc Fixe process.

I have also a long letter from Mr. Lobstein to which I will reply next week, and to which I will refer in my next letter to you.

With kind regards, I am,

Yours very truly,

.....

Vice President

Exhibit 63

COPY

November 4, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

Mr. Pisart has been in New York for several weeks, and is returning to Europe tonight on the Majestic. He called on us here one afternoon a short time ago, and we had a very interesting talk on the subject of the sale of titanium, lithopone and other pigments in Europe.

He appeared to have two points in mind; first, the sale of zinc oxide to the Titan Company and the Societe Industrielle du Titane, and second, the possible use of his manufacturing and distributing facilities in France, Belgium and Holland for the sale and distribution of titanium pigments.

With respect to the first point he stated that while the Titan Company and the French company bought some zinc oxide from his companies he did not furnish your entire supply, and that he would like very much to make a contract with you to supply the entire requirements of the two companies on a sliding scale of prices on the market at the time of shipment.

He further stated that owing to the fact that the Titan Co., was a customer his people had so far refrained from selling Trimetal which, as you know, is a combination lithopone and zinc oxide paste, in Scandinavia, and that they would continue to leave this market to you if you would

purchase your zinc oxide exclusively from them. If, however, they did not enjoy your entire business he felt that they should be at liberty to offer their paste products in Scandinavia.

I do not know all of the circumstances; but from the information at hand it seems to me that it will be in your interest to accept Mr. Pisart's proposal.

With respect to the second point, Mr. Pisart pointed out to me that beside his two grinding plants, one in Paris and the other in the north of France, he had some thirty depots in France from which his products were distributed, and that he felt that they would not only be able to grind titanium pigments for us on an advantageous basis, but that his distributing facilities were infinitely better than anything that Mr. Gilbert could develop for many years.

When I spoke of the possible conflict of interest between lithopone and titanium he reminded me that his Belgian company Stella had ground important quantities of our white lead for many years with entire satisfaction to both parties to the transaction. He also stated that he had discussed with Mr. Vincent the possibilities of manufacturing titanium pigments at his (Pisart's) lithopone plant in the north of France where he has a sulphuric acid factory and an ample supply of black ash available. This situation would also apply to the lithopone plants in Holland and Belgium.

He stated that he was prepared to manufacture titanium pigments for us or, if we preferred, to enter into some joint arrangement similar to the one we have made with the I. G. There are, of course, two sides to such a proposal, but it is nevertheless one to which I think we should give very careful thought.

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I told Mr. Pisart that while personal association with him would, of course, be very agreeable to us there was a possibility of a conflict of interest, and that we would not like to give him a definite answer immediately. I further told him that our titanium interests in Europe were under your management, and that we would depend upon you for advice in all matters of this kind, adding that I would write you at the first opportunity asking you to make arrangements to meet him at some time and place that suited your mutual convenience and discuss the whole position. This I would strongly recommend you to do.

You may develop relationships that will be profitable for both, and in any case you will find Mr. Pisart a very interesting and delightful man.

Yours very truly,

Vice President

Exhibit 64

Letterhead of

TITAN ~~CO.~~ A/S

Fredriksstad, April 8th 1927.

GJ/EH

Evans McCarty Esq.
c/o United Lead Co.
111, Broadway,
New York.

Dear Mr. McCarty,

I received your telegram today as follows:

> "Referring to my letter of 25th March can you tell
> "me when I shall be needed in Norway information
> "desirable in order to make other engagements,"

and have answered you as follows:

> "Believe best time your arrival Norway between
> "15th and 20th May and probably see IG ultimo May
> "stop "Kühne telegraphr proposal agreement sent me
> "and ask me come Leverkusen about 20th April as
> "he leaves 23rd April for 4 weeks."

I propose the above date of following reasons:

1) If there should be any question of doubt with regard to the conditions for the concession, your arrival between the 15th and 20th of May will be of much value.
2) Mr. Hallett will probably have been able to finish his report.

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3) Referring to my letter of yesterday, Dr. Kühne returns about the 23rd of May and consequently the end of May or beginning of June will be a suitable time to negotiate with them, which will be facilitated in case you have been in Norway and looked over the situation here beforehand and you may find time to take a part in the negotiations or anyhow talk matters over with me.

4) We may also have a talk with regard to the French situation before the last term for decision as to Société Industrielle du Titane, which is the end of May, although I believe the best thing to do is to follow your view in your letter of 18th of March, i.e. to continue with the company.

5) From your interesting letter of 25th of March, for which my best thanks, I understand that this time also will suit you.

Possible arrangements regarding the future of the Titan Co. I presume can be talked through and fixed during your stay and carried through without troubling you to come to Norway again—the actual receipts of the shares against payment do probably not need your personal presence.

I have noted with much interest, that a member of your auditing staff is now in Hamburg and believe it will be a very good thing if he will visit us with regard to the mentioned examinations of the books. I hope that our Mr. Knudsen at the same time can have the opportunity to talk over with him any questions of interest with regard to the future book-keeping and the reports you wish to have in future.

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Any suggestions as to simplifying and modernization of the book-keeping I am sure Mr. Knudsen will receive with interest.

If you will let us know in time when we can expect his visit, we shall arrange matters to facilitate his work as far as possible.

We make up a raw-balance every month and it is ready in general about 4-5 weeks after the end of the month. In case of necessity and if it is known sufficiently in advance, we can have it done earlier, probably within about three weeks.

With regard to Mr. Washburn I beg to write you a little later, as I do not see quite clear at present when his visit will be most useful. I think anyhow that it is desirable that he finishes his work with the ilmenite from Sogndal before he leaves and I will be obliged if you will arrange to send us the results soonest possible. His visit will especially be of interest with the view to the factories to be erected in Germany and France. If the experiments in St. Louis give a satisfactory result, this question will be simplified.

With kind regards,

Yours very truly,

G. JEBSEN

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Exhibit 65

Paris, June 18, 1927.

Mr. E.J. Cornish,
President,
National Lead Company,
111, Broadway,
NEW. YORK.

Dear Mr. Cornish,

I am enclosing copy of a cable sent you from Hamburg on Wednesday of last week. I thought that the information would be of interest both to you and to the Board.

To state the arrangement briefly: a German company is to be formed, in which the "I.G." and ourselves will each hold a half interest. The Company will be registered with an initial capital of 500,000 Marks, but this amount will of course be insufficient for the Company's business, and additional capital will have to be supplied by increases in the capital stock, or by loans to the Company, as may seem best.

The "I.G." will lease to the new Company a factory located on its own property of Leverkussen, near Cologne, and will supply to the new Company Sulfuric acid and such other necessary materials as it manufactures, at factory cost plus 10%, and will sell the product of the new Company through its various branches at an agreed upon commission.

The "Titanium" Company will supply ore from its mine in Norway on an agreed upon basis, and give the new Company an exclusive license in the territory assigned to it under its patents.

6:20

Exhibit 65

A very valuable part of the arrangement is a continuing option or "call" given to the "Titanium" Company on ½ of the product of the new German factory for shipment outside German territory at actual factory cost.

If, as now seems possible, Germany is going to be the cheapest place in the world to manufacture "Titanium" products, this provision in the arrangement is likely to be of great value.

Dr. Jobsen and I visited the works of the "I.G." at Leverkussen on Friday of last week and had a very interesting day. The plant occupies between 1½ to 2 square miles of ground, and employs about 12.500 workers. With the limited time at our disposal, we confined our visit to the heavy chemical department in which we were especially interested.

To give an account of the day would be rather a long undertaking which I will defer until my return. Mr. Warburg did not participate in our conference with the "I.G." people in Hamburg, but his influence had been very helpful in preparing the way. Dr. Jobsen has, I think, handled the negotiations very skillfully.

A year or two ago a Company was formed in France to exploit the business in this country, and 25% of the capital was paid in. The business has not, however, reached a tonnage that would warrant building a factory. The Titanium Company's interest in the French Company was originally a small one, but an opportunity was afforded this year to acquire 50% of the shares which had originally been subscribed for by Société des Minerais et Métaux, a Company whose interests as you know are principally in the metal business, and had no real interest in the Titaniuin Pigment business.

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Under the present circumstances, I agree with Dr. Jobsen that the Titanium Company should acquire these shares, and arrangements have been made to take them over this week. When this transaction has been concluded, the Titanium Company will own a majority of the shares in the French Company.

It is not probable that we shall fish the Titanium Company to continue to hold the shares in the French and German Companies, and arrangements have been made permitting the Titanium Company to transfer these shares either to the National Lead Company, or to some other Company formed for this purpose.

A telegram was received from Norway on Saturday stating that the by-laws of the Titanium Company had been changed; and the certificates and other documents delivered to the bank in Oslo. Payment will be made to-day.

The foregoing will, I think, give you a fairly good idea of the position as it is up to date, and I will not burden you with a general letter now.

With kind regards,

I am,

Yours respectfully,

Exhibit 65

Copy of Telegram

Leadco New York.

Cornish reached satisfactory agreement with I.G. Stop Jebsen and I visit their plant near Cologne Friday. Papers ready for signature next week Initial capital German company 500,000 Marks First payment 25% Titanco will also take up 50% shares French Company Requiring one million five hundred thousand francs Has funds on hand for payments. Will need advances later on stop Dolm Hotel COLOGNE Friday Paris next week.

Regards. McCarty.

Exhibit 66

Dr. G. Jebsen
Titan Company A/S
Fredriksstad, Norway

August 18, 1927

Dear Dr. Jebsen:

On my return to the office I found a long letter from Mr. Vogt under date of July 29th enclosing translations of various documents in connection with the claims of the Fredriksstad Privatbank and Elektrokemisk against the Titan Company. Mr. Vogt's letter deals with these transactions in detail, and the whole position seems now to be in order.

We have also received from den Norske Creditbank a final statement of sums expended for our account. The statement, however, covers only transactions up to and including July 15th, and a separate statement will have to be rendered for any transactions after that date.

I am enclosing copy of my reply to Mr. Vogt's letter which explains itself.

Mr. Vogt's services as counsel for the National Lead Company terminated with his election as a Director of the Titan Company, and we shall, of course, leave in your hands all questions relating to the services he may be expected to render as a Director, and also any legal services he may render which cannot properly be considered his duties as a Director in the Company. I am very much pleased with the way in which our business has been handled by Mr. Vogt, and am glad that he is to continue to be associated with us.

I am also enclosing copy of a letter just at hand from Mr. Lobstein and copy of my reply. I presume that the Auer Company is the German group referred to in the last paragraph of Mr. Lobstein's letter.

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Exhibit 66

After considering the matter carefully we have come to the conclusion that it will be better for the National Lead Company to hold the half interest in the Titan Gesellschaft and the shares of Minerais et Metaux in the French company in its own name, and I, therefore, telegraphed this information to you yesterday as per copy enclosed. Please advise us when the first payment in connection with the Titan Gesellschaft is required, and remittance will be made promptly. The Titan Company has already paid for the shares in the French company which were held by Minerais et Metaux, and if you will send us a memorandum of the amount paid we will send you a check to reimburse you. I think that there is no immediate hurry to transfer to the National Lead Company the shares in the French company which were originally subscribed for by the Titan Company although we may wish to do so later.

You will be interested to learn that the price of Titanox in the United States has been reduced to ten cents per pound. It is, however, too early to tell what affect this reduction will have upon the volume of the sales. I am arranging to send a small shipment of Titanox to Greeff & Company in London as Mr. Thompson is very anxious to have some of our product there to submit to certain custombers for trial. I do not know just what price I will be able to arrange with Mr. Meredith, but will advise you later when the matter has been settled. As the first shipment will probably not exceed five tons the price is not really a great matter.

With kind personal regards, I am,

Yours very truly,

Vice President

6825

Exhibit 66

UNITED LEAD COMPANY

CONFIRMATION OF TELEGRAM

AUGUST 17, 1927

LCO
JEBSEN
TITANCO
FREDRIKSSTAD

TAKE SHARES IN TITAN GESELLSCHAFT AND MINERAIS ET METAUX SHARES IN. FRENCH COMPANY IN NAME OF NATIONAL LEAD COMPANY

McCARTY

626

38

Exhibit 66

TITAN CO. A/S
FREDRIKSSTADT

TELEGRAM

Vexiet mellem

Dr. Jebsen, Titan Co. A/S. Fredriksstad.

og

Evans McCarty, Esq., *London.*

Mottat den

Avsendt den 3.August 1927.

McCarty,
c/o GREEFF
Cannon, London

Vogt absent holiday stop National Lead's account Creditbank closed stop New credit and instruction necessary stop I have pr. telephone today requested Creditbank continue receive outstanding shares for National Lead until further and declared stand. personally responsible stop Creditbank accepted this stop Meeting 25th held Cornish you and Vogt elected directors stop Room reserved Grand Hotel saturday evening for Mr. and Mrs. Moses stop Raspe arrives monday and Kühne middle next week Agreements received from I.G. all signed but only A with datum I.G. explains agreements be exchanged with new when Titangesellschaft constituted stop Schedules re. selfcost and plan of site not annexed. I.G. anticipate these agreed upon during Kühnes stay here stop. I in return sent yesterday necessary papers signed by me to Mathias requesting him forward them to I.G. if no objections. Happy return New York.

Jebsen.

Exhibit 67

Letterhead of

TITAN CO. A/S

GJ/KL

Fredriksstad, September 6, 1927.

Mr. Evans McCarty,
Vice-President,
National Lead Company,
New York.

Dear Mr. McCarty,

On my return to Fredriksstad yesterday, I received your letter of August 18th, for which my best thanks.

I am glad to note that you are satisfied with Mr. Vogt's work.

Franco-Bresilienne

I have noted the contents of your correspondence with Mr. Lobstein. If matters develop so that the contract for ilmenite over a period of years should be seriously considered, it may be wise also to consider at the same time the restrictions regarding deliveries to titanium manufacturers which Franco-Bresilienne accepted in 1922.

Societe Industrielle du Titane has the exclusive right to deliveries in France; but if this company only takes its supplies from Norway, we do not know what attitude Franco-Bresilienne will take. I also presume that it is the "Auer" Company to which Mr. Lobstein has referred.

The Agreement of October 18, 1922, between the Titan Co. and Franco-Bresilienne contains the following stipulations regarding deliveries of ilmenite:

Exhibit 67

Extract Art.IV

The Titan Co. undertakes to furnish ilmenite to Franco-Bresilienne, leader of the participation, the mineral which it produces in Norway at the most favoured customer's price.

Franco-Bresilienne reserves to the participation for all the requirements of its manufacture of products in the licensed field the exclusivity of all the titaniferous ore which it disposes from the mines or concessions which it possesses or from the exploitation of deposits belonging to companies which it controls.

Extract Art.V

Further deliveries of mineral which the participation may need will be made under the same terms of payment by the producer, be it Titan Co., be it Franco-Bresilienne, whoever may furnish at the lowest price.

With regard to further deliveries of ilmenite which Franco-Bresilienne may make to the participation, in virtue of the exclusivity accorded to the latter for the manufacture of products in the licensed field for France and its colonies, Franco-Bresilienne will invoice these deliveries at their self-cost price, including general expenses of exploitation, amortization at 10% per annum of its installations, export duties, and a profit of 10%.

Extract Art.XIII Transformation into a Limited Company

The statutes of the limited company shall be made on the following basis:

Advantages brought by the Titan Co., consisting of: Obligation to furnish or on the conditions foreseen for

Exhibit 67

the participation; it being understood that from the date of the termination of the exclusive licenses, the Titan Co. will be relieved of any obligation of delivery of ore and will resume its entire liberty of action.

During the existence of the exclusive licenses the obligations of delivery of ore by the Titan Co. are limited to the quantities which the Titan Co. can deliver from its deposits in working order at the time the orders are passed by the company in surplus of the supply of the Titan Co.s own factories and of the fulfillment of contracts already existing at that time.

Advantages brought by Franco-Bresilienne, consisting of: The advantages granted to the participation, it being understood that deliveries of ore will be ruled by the same conditions which are stipulated above for the deliveries from the Titan Co.

Extract Art. XIV—Additional Agreements:

Subject to the conditions fixed for deliveries of ore in Art. IV, V, and XIII, Franco-Bresilienne grants to the Titan Co. during the existence of the participation and the limited company, which will replace this, the exclusive right to buy ilmenite for the manufacture of products in the licensed field for countries outside of France and its colonies which Franco-Bresilienne may dispose in surplus of the requirements of the participation or the limited company for their manufacture.

Franco-Bresilienne is free to fix its sales price to the Titan Co. for its deliveries. If the Titan Co. does not take deliveries at the minimum self-cost price, calculated as in Art. V, plus a profit of 25%, Franco-

Bresilienne can resume its entire liberty of sale for countries outside of France, but Franco-Bresilienne cannot sell its products in the licensed field under the price fixed to the Titan Co.

If Franco-Bresilienne can dispose of ilmenite quantities more than those necessary for the production in the licensed field, it keeps its liberty of sale for metallurgical uses or for products other than those in the licensed field. Franco-Bresilienne informs the Titan Co. of the sales which it effects.

May 7, 1925, in connection with the formation of Societe Industrielle du Titane, Mr. Lobstein proposed some amendments in the obligations towards the Titan Co., amongst which was the following:

"Franco-Bresilienne shall be free from all obligations of delivery of titaniferous ore and resume its liberty of action at the end of 1936, at which time the exclusive licenses under the patents of the Titan Co. in France expire."

After several verbal discussions on the matter, I wrote on June 1, 1926 (the following year) a letter to Mr. Lobstein accepting the following amendments proposed by him:

"Franco-Bresilienne is free to fix its sales price to the Titan Co. for its deliveries.

"If the Titan Co. does not take deliveries at a self-cost price, delivered from works, which includes the production costs, general expenses, amortization of materials and installations at 10% per annum; this price augmented with a profit of 25% of the total, and still augmented with 5,000 Reis per ton for amortization of

the deposits, Franco-Bresilienne resumes its full liberty of sale for countries outside of France, but it cannot sell for the manufacture of products in the licensed field under the price fixed to the Titan Co."

Further, I accepted the same stipulations as previously with regard to sales for uses outside of the licensed field and with regard to the information to the Titan Co. of its sales.

With regard to the expiration of these obligations, I proposed the term of the end of 1945.

In a letter of June 26, 1926, Mr. Lobstein accepted my proposal of the term "to the end of 1945".

He added further, that in the case Societe Industrielle de Titane should be dissolved, Franco-Bresilienne should be entirely free.

I have not answered this last letter.

I beg you to excuse my taking up your time with this detailed information; but I thought it would be well that you had a record of it.

Re Shares Minerais & Metaux

This I have dealt with in my letter of from Paris.

Re Titangesellschaft

No payments have been made yet.

The first payment will be made by the I.G. for the Titan Co. in connection with the formalities carried out by Dr. Kühne. I.G. will immediately send us a debit note, and I will inform you to pay this to the I.G. for the Titan Co's account.

Exhibit 67

A transfer of the interests from the Titan Co. to the National Lead Company cannot take place before the Titangesellschaft m.b.H. formally exists.

For following payments and further requirements of capital, we agreed that, as soon as it can be foreseen, a plan shall be worked out for payments to be made at certain intervals—both partners should then pay equal sums on an account to be arranged to this purpose, which account shall serve to cover the expenditures of the Titangesellschaft.

In another letter I shall deal with various matters concerning Titangesellschaft m.b.H., its organization, self-cost schedules, etc.

Re R. W. Greeff & Co. Ltd.

I met Mr. Thompson in Paris. He seemed to have found difficulties in increasing the price of Extra X. He proposed instead to cut the rebates both for Extra X. and Standard X. and improve the situation in that way. As this, however, does not meet the purpose to improve the relation in the prices between Extra X. and Standard X. I did not follow his proposal.

I have noted the shipment of 5 tons Titanox to London. As you say, the price of those 5 tons is not a great matter. I shall, however, be interested to know as early as possible whether the Titanium Pigment Co. will deliver us Titanox for next year at the price we can pay, as our production and sales policy for next year will be influenced by this.

Some information regarding the acquirement of the majority of the shares in Societe Industrielle du Titane and

Exhibit 67

the arrangement with the I.G. has circulated through the European Press and is said to have emanated from New York.

In a German monthly they quote "The Chemical Trade Journal" and "Chemical Engineering" London, Vol. LXXX, pages 405-406, 414 and 433, No. 2083 of April 22, 1927—an article which probably is inspired by Monk & Irwin of Montreal.

With regard to the competition, the following—which I beg you to receive as confidential information—will certainly interest you:

When last in Leverkusen, I was shown a letter from a connection of the I.G. in U.S., Mr. Albert P. Rippenbein. He has been in connection with a Mr. Chase, who tries to do something in the titanium industry and has formed a group whose members are said to be of substantial means and are members of the Commercial Solvents Corporation. There is talk of a factory to be erected in Baltimore on the basis of ilmenite from Virginia.

Mr. Schleussner, of Roessler & Hasslascher, urged Mr. R. to inform Mr. C. that his company was ready to discuss affiliation with Mr. C. in a syndicate. The Chase group has, however, all the money they can use and Mr. R. did not consider that they would be interested with R. & H. unless they can offer something of special interest.

Another man, by the name of Mr. Litter, has been authorized by the oldest white lead manufacturer in U.S.A. to attempt to arrange an affiliation with Mr. C's group. The reputation of this white lead firm should help the introduction. He offered his entire white lead business to be thrown into the titanium combination. Mr. C. says he

bases himself upon such patents that he can control all the manufacture of titanium in U.S.

Funny enough, Mr. R. considers Mr. C. to be a man whose statements should be taken seriously.

Do you know anything of this?

The above are notes which I took just before I left Leverkusen. Dr. Raspe promised to send me copies of the letters.

With kind personal regards,

Yours very truly,

G. JEBSEN

Exhibit 68

September 23, 1927

Dr. G. Jebsen, Managing Director
Titan Company A/S
Fredriksstad, Norway

Dear Dr. Jebsen:

I have your letter of September 6th, and am interested in the extracts from the contracts with the Franco-Bresilienne. Apparently the Titan Company or the Societe Industrielle du Titan has a call or option on the ilmenite produced by the Franco-Bresilienne, and in no case can the latter company sell its ilemnite elsewhere at a lower price than cost plus twenty-five percent.

You are correct in your presumption that the Auer Company is the company to which Mr. Lobstein refers in his letter. The Auer Company has offered to pay 100 mil-reis per ton for ilmenite in bulk f.o.b. Guarapary. I doubt very much, however, whether this figure is equal to cost plus twenty-five percent. The whole matter hinges, however, upon the ability of the Franco-Bresilienne to make arrangements for forwarding shipments in bulk.

If this can be done I think that the Titanium Pigment Co., will be in a position to take all of the ilmenite Mr. Lobstein's company is apt to produce, but if these arrangements cannot be made it will be very difficult for Mr. Lobstein to compete with other sources of supply. I have had no recent news regarding the shipping situation, but a number of people are working on the problem, and I am hopeful that it will eventually be solved.

The five tons of Titanox for London will not be dispatched from New York until sometime next week. I think that if the experience with this five ton lot is encouraging arrangements can be made to ship larger quantities at a

price that will be satisfactory to you, but I will write you more definitely on this point after I have had a further talk with Mr. Meredith.

The comments in the European press to which you refer were probably the result of some news items which appeared quite generally in the American papers about the middle of August. I am enclosing clipping from the Wall Street Journal which is typical.

The information received from Dr. Raspe regarding possible competition in America is very interesting.

The Mr. Chase referred to is Mr. March Chase a chemical engineer of high standing and well known to us. Mr. Chase is a man whose statements would ordinarily be taken quite seriously, but it is, of course, possible that he may be

We are also acquainted with Mr. Schleussner who is, as your letter indicates, of the firm of Roessler & Hasslascher. We had heard that the Commercial Solvents Corporation were interested in titanium, but did not know that they were one of the group for which Mr. Chase has been acting.

We are a little puzzled by the reference to the "oldest white lead maufacturers in the United States". Wetherill & Brother of Philadelphia are the oldest white lead manufacturers in this country, but their business is not large, and we would not consider that their reputation would be of material assistance in the development of the titanium business. We will be very interested to receive copies of the letters which Dr. Raspe has promised to give you.

Yours very truly,

Vice President

Exhibit 69

General Offices
Lafayette & Sugar Sts
Niagara Falls,NY

Sales office
94 Fulton St.
New York,N.Y.

Plants
Niagara Falls, NY
St. Louis,Mo.

TITANIUM PIGMENT CO., INC.

Niagara Falls, N.Y. Jan. 20, 1926.

Mr. Evans McCarty, V. P.,
Titanium Pigment Co., Inc.,
111 Broadway
New York City.

My dear Mr. McCarty:—

In considering the policies to be adopted by this Company in the future I believe that some of the points referred to in the following paragraphs may prove of interest to you.

All of the controlling United States patents of this Company with the exception of two will expire on or before September 18, 1934. The two patents which expire after that date are U.S. Patent No. 1,313,874 covering pigments or paints in which our composite pigments and zinc oxide are used, which expires August 26, 1936, and our so-called "Blanc Fixe Case" covered by U.S. Patent No. 1,409,648, which expires March 14, 1939.

It is probable, therefore, that the Company's patent control will practically cease during the Fall of 1934, which means in approximately 9¼ years.

The National Lead Company purchased control of the Titanium Pigment Company as of August 1, 1920, or approximately 5½ years ago.

Neither this Company nor the Titan Company has any patent which controls the manufacture of titanic oxide as such and we know there are other companies now offering titanic oxide for sale.

Until very recently we have never seen a titanic oxide pigment that had tinting strength of over 700 (compared to white lead as 100). During the latter part of 1925, however, we have made in our small chemical plant at Niagara Falls titanic oxide products of good color of which the tinting strength has been as high as 1200, and in one case the tinting strength ran 1400.

So far as I am aware there is nothing in our patents or those of the Titan Company which would prohibit another manufacturer from making a mechanical mixture of such a titanic oxide with an extender pigment. Such a mechanical mixture might conceivably have tinting strength nearly equal per unit of titanic oxide contained to our composite pigments.

This Company has three U.S. patents Nos. 1,205,267, 1,205,268 and 1,205,269, all of which expire on November 21, 1933, which broadly cover paint containing amorphous titanic oxide and iron oxide, paint containing amorphous titanic oxide and white lead, and paint containing amorphous titanic oxide and zinc oxide.

If the validity of these three patents can be sustained they would undoubtedly prevent the use of mechanical mix-

tures of titanic oxide and extenders or of titanic oxide itself in paint mixtures containing the titanium pigment alone or mixed with either white lead or zinc oxide.

Assuming, therefore, that these three patents could be sustained this Company might be able to preclude the sale of titanic oxide or mechanical mixtures of titanic oxide and extenders for use in paints until November 21, 1933, or approximately 8¾ years hence.

It is apparent, therefore, in a general way, that this Company's patent control of the situation is a matter of less than ten years, or less than twice the period since the National Lead Company purchased control of this Company.

I believe that all of us, who have watched the rapidly developing use of Titanium pigments, are convinced that ultimately these pigments will be used in large tonages.

I believe also that there has been sufficient activity on the part of others in connection with the research and development of manufacturing processes to indicate that were it not for the strength of the patents of this Company and the Titan Company other Titanium pigments would have been manufactured and marketed on a much larger scale before this and certainly will be as soon as the patent protection expires.

In view of the above it seems to me self evident that the policy of this Company should be to rapidly increase the production and use of Titanium pigments during the next eight or ten years, to enlarge our research development and to *obtain control of the most available sources of raw materials*, so that the Company's position at the expiration of its patent protection would be as strong as we can make it.

Exhibit 69

I do not feel that any of us can be entirely satisfied with what has been accomplished during the past eight or ten years, during which we have been working on the development of Titanium pigments.

In the following schedules are shown the cost of Titanox at St. Louis for the first eleven months of 1925—what these costs would have been had our digestion equipment been adequate and our recoveries of Titanic Oxide and Acid been equal to those at Niagara Falls during the run on Titanox at that plant from April to October, 1925. The two other schedules are my estimates of cost of Titanox and C-Pigment on basis of 1,000 tons per month of each pigment using domestic ore—figured at $15.00 per ton at plant.

Ilmenite from North Carolina or Virginia could be delivered at St. Louis or Niagara Falls for less than that figure, I believe.

St. Louis Plant—1st 11 Months 1925.

		Titanox Cost per Ton
Operating Costs	$ 405,421.57	$ 58.33
Materials		
H_2SO_4	208,373.12	29.97
Ilmenite	234,279.15	33.70
Blanc Fixe	337,874.10	48.61
	$1,185,947.94	$170.61
Production Titanox	6,951.042 Tons	

Had we made as good recoveries at St. Louis from ore and acid as were made at Niagara Falls during run in 1925

Exhibit 69

should have produced 9,200 tons. On that basis figures would have been—

		Cost per Ton Titanox
Operating Costs	$ 405,421.57	$ 44.07
Materials		
H_2SO_4	208,373.12	22.65
Ilmenite	234,279.15	25.47
Blanc Fixe	447,212.00	48.61
	$1,295,285.84	$140.80

Production (11 Mo.) 9,200 Tons
836 tons per Month.

TITANOX

On 1,000 tons per Month (35 tons per Day)

St. Louis Plant
12 Months

		Cost Per Ton
Operating Costs—at $36,900.00 per Month	$442,800.00	$ 36.90
Materials		
9,000 tons Ilmenite at $15.00	135,000.00	11.25
27,000 " 66° H_2SO_4 at $12.50	327,000.00	27.25
9,360 " Blanc Fixe at $60.00	561,600.00	46.80
	$1,465,400.00	$122.20

Exhibit 69

C-PIGMENT

12 Months

On 4,000 tons per Month (35 tons per Day)

Operating Costs—at $36,900.00 per Month	$442,800.00	$ 36.90
Materials		
10,000 tons Ilmenite at $15.00	150,000.00	12.50
33,000 " 66° H_2SO_4 at $12.50	412,500.00	34.38
5,400 " Lime at $11.50	62,100.00	5.17
	$1,067,400.00	$ 88.95

	TITANOX	C-PIGMENT
Selling Price	$200.00	$160.00
Manufacturing Cost	122.20	88.95
Administration and Selling	12.50	10.00
Cost to make and sell	134.70	98.95
Balance	65.30	61.05
	$200.00	$160.00

Of course there are a great many factors which determine the value of a pigment for use in paints, enamels, etc., but assuming that a certain pigment has proven available for either exterior or interior exposure the degree of opacity would have a considerable or possibly controlling bearing on the value of a pigment to the trade. The best measure for testing comparative opacity except actually spreading tests is the tinting strength method, i.e., mixing the required amount of black with a definite amount of the pigment being tested and comparison with standard.

The following schedule shows the tinting strength of various pigments—and on basis of prices shown the cost per unit of tinting strength.

Exhibit 69

	Tinting Strength	Cost per Pound	Cost per 100 units Tinting Strength
White Lead	100	10¢	10¢
Zinc Oxide	200	7½¢	3.75¢
Lithopone	240	5¢	2.083¢
Titanox	350	10¢	2.857¢
C-Pigment	420	8¢	1.905¢
Titanic Oxide	1200	50¢	4.167¢

To sell same unit value as Lithopone, on this basis, Titanox would have to sell at 3.5 x 2.083 = 7.2905¢ per lb., whereas C-Pigment at 8¢ per lb. is cheaper than Lithopone at 5¢ per lb.

One other point in connection with the development in the use of Titanox in paint formulae that does not seem to have been given sufficient consideration is the fact that combinations of White Lead and Titanox, either with or without small percentages of Zinc Oxide, have proved exceptionally durable.

In this connection please refer to the conclusions in Mr. Barton's report of August 15, 1923, "Titanox-White Lead Paints for Exterior Work". This report covered a testing period of seven years during which many different formulae were exposed for test.

Mr. Barton's conclusions were:

1. "Titanox—Basic Carbonate White Lead Paints are exceptionally durable. In this respect being superior to paints made with straight White Lead, combinations of White Lead and Zinc Oxide or Titanox and Zinc Oxide."
2. "If the Titanox-White Lead Paints are properly proportioned they will remain clean and free from

accumulations of dirt and hold tints reasonably well."

3. "The characteristics of Titanox-White Lead Paints offer the opportunity to set a new and higher standard for exterior paints."

His recommendation in this report was:

"That the problem of industrial development of Titanox-White Lead Paints be made a joint investigation by the National Lead and the Titanium Pigment companies."

Further reference is made to a report of Mr. D. W. Edgerly, dated October 29, 1925, which covered his examinations of a series of panels exposed at the Experimental Station of The North Dakota Agricultural College in July and August, 1922, and examined at date of report.

Regarding the Titanox-White Lead combinations Mr. Edgerly commented, as follows:

"Not having a continuous record of the Fargo tests, decisive conclusions are impracticable. In general, however, it is evident that combinations of Titanox and Lithopone are considerably better than those of Lithopone and Zinc Oxide; that combinations of White Lead with Titanox give durable, protective coatings equal to the best results obtained from other combinations. At the present time I do not want to go on record that White Lead and Titanox combinations are better than others, altho that is my present impression based on both the Fargo and Sayville tests.

"Some of the Fargo tests of Titanox-Zinc Oxide combinations are giving excellent results and this has been confirmed by some of the similar types of semi-paste formulae made by paint manufacturers. All of the panel tests of White Lead-Titanox combinations have ranked among the

Exhibit 69

best as far as durability and protection is concerned, but they have shown a tendency to firmly hold dust and dirt which has its effect on appearance.

"The dirt collecting tendency of White Lead paint as often commercially applied, is at least an argument used by the paint manufacturer and a similar condition of a White Lead-Titanox coating would be a factor in the introduction of such combinations. However, in its final analysis, this will not be any more a detrimental or a serious handicap. (having arrived at the definite conclusion that such combinations give the best protective value, and by proper pigment and vehicle proportions the dirt collecting tendency can be practically eliminated), than the continuous medium heavy chalking and "fading" of tints has with the Titanox-Zinc Oxide combinations already on the market."

While I appreciate my lack of experience in this field in which that of others in our organization has been so g I cannot escape from the conviction that failure to develop the market for Titanium pigments to the fullest extent, during the patent protection period, by maintaining high prices and low production, is a policy which will be regretted at a not distant date.

Yours very truly,

TITANIUM PIGMENT CO., INC.,

(Sigd) A. Thompson
2nd Vice President.

AT/K
Copy of this letter to
Messrs. Gregg and Meredith.

Exhibit 70

Letterhead of
NATIONAL LEAD COMPANY

January 12, 1927.

MR. EVANS MCCARTY, Vice President
United Lead Company
111 Broadway, New York

DEAR MR. MCCARTY:

To correct any erroneous impressions I have and to suggest matters for further discussion, kindly permit the following:

1. The Titanium patents expire in 1936 unless extended in ways not at present known to us.
2. Dr. Jebsen's proposal would leave us free to adopt and pursue whatever policy we may desire.
3. Probably the patent rights would fail unless manufacturing is done in Germany, England and possibly other countries.
4. Arrangements can be made for the manufacture of Titanium pigments by one of two companies now existing in Germany; one of which being the chemical corporation (probably the most important in the world), one of whose products now being manufactured is lithopone. The other is a smaller corporation near Berlin.
5. Arrangements with either of these companies would contemplate payment of royalties.

Exhibit 70

6. Nothing definite is at present in contemplation to manufacture or market, either in England or other parts of Continental Europe; although efforts have been made to sell and familiarize the public with Titanium pigments.

7. The Norwegian company has been losing money.

8. It probably will continue to lose money until it reaches a point where it breaks even, and thereafter increasing sales will result in rapidly increasing profits.

9. On a conservative analysis of the business and prospects, you estimate that, should we buy these properties, there would be no profits above cost of promotion for the first two years. That for the first five years we could reasonably expect a return of 6% on our investment. That for the following four years we could reasonably expect 20% to 25% on our investment; so that we would get our money back by the time the patent rights expired, and would have as our profit whatever prestige or good-will or other properties the Norwegian company might possess at that time.

10. You called attention to the fact that, if the Norwegian company or its successor enters into license arrangements for the payment of royalty during the life of the patents, at the expiration thereof the company manufacturing the goods would have the plant, the experience and the working force, and could easily recover the trade of all the concerns that had theretofore been selling the goods to the consuming public.

Exhibit 70

If in the foregoing I have correctly reproduced your statements, it seems to me that there could be but one answer to Dr. Jebsen's proposition. I would be sorry, however, to dismiss it in this way. I believe in the future of Titanium pigments, but their development will be slow. The inertia of ignorance and prejudice cannot be overcome except over a term of years. European brands of white lead were imported into the United States for fifty years after prohibitive duty had been placed upon them. Titanium pigments will probably not find their ultimate place in this world for two or three generations. With all our advantages—by means of which we have caused between three and four hundred different concerns to experiment with Titanox—we still find a fear and misgiving that has apparently stopped further increase in sales until the test of time and reaction of consumers justify a further aggressive sales policy.

Therefore, with us in the United States and with the Norwegian company, there is a common need to exploit Titanium pigments and, at the same time, protect ourselves; so that after the expiration of patent rights, we may have the manufacture and sale thereof under our control so as to continue to reap the harvest from the seed we are now sowing. If you, therefore, could formulate a plan satisfactory to Dr. Jebsen, whereby we could arrange to pay a royalty to the Norwegian company similar to that he proposed to ask from the German company, under an agreement that the National Lead Company would endeavor to organize companies in Germany, England and such other European countries as it desired—in each of which companies the National Lead Company should acquire and own

Exhibit 70

at least one-half of the capital stock outstanding—I would personally look with favor upon such an arrangement.

I would be willing to buy the physical assets, including the mine of the Norwegian company; so that the only thing remaining in that company would be its right to draw royalties until the termination of its patent rights.

In the formation of companies in Germany, England and elsewhere, I would be glad to have the present stockholders in the Norwegian company join us to the extent they desire, subject to the limitation that the National Lead Company should own one-half the stock in such companies, and that there should be a local ownership by residents of the country where such plants are located who would have the active management of the company.

I would also desire that arrangements should be made with Dr. Jebsen to retain his interest and continue as manager of whatever business the National Lead Company should acquire. This last is particularly urgent, as we have no one in mind to promote the work that we consider Dr. Jebsen, both by education and character, is especially fitted to do.

Very respectfully,

E. J. CORNISH
President.

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Book D—page 100 and 101

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, November 17, 1927, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carpenter, Carter, Cornish, Croft, Field, McCarty, Rockwell, Sidford, Taylor, Thompson and Wettstein

WHEREAS, pursuant to authority given by resolution of this Board adopted January 20, 1927, this Company now owns a substantial majority interest in Titan Co. A/S, a Norwegian corporation, owner and licensor of patents relating to the manufacture of titanium pigments in various countries of Europe and Asia, and

WHEREAS, in furtherance of the interest of this Company in the foreign manufacture and sale of titanium compounds thus acquired said Titan Co. A/S has purchased for account of this Company at a price of 24 francs per share 56,888 shares and corresponding "parts de foundateurs" out of a total issue of 100,000 shares and 66,666 "parts de fondateurs" of Societe Industrielle du Titane, licensee of said Titan Co. A/S for the sale of titanium products in France; and has also for account of this Company entered into a contract with Die Interessengemeinschaft Farben industrie Aktiengesellschaft, of Germany, known as "the I. G.", for the organization, under the name Titangesellschaft m.b.H., of a German corporation for the manufacture and sale of titanium pigments in other coun-

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tries of Europe and Asia, with an initial capital of 500,000 marks; to be jointly owned and directed by said Titan Co. A/S or this Company on the one hand and said "I.G." on the other, and

WHEREAS, in the judgment of this Board it is for the best interests of this Company and of all concerned that the interests in said French and German companies so acquired or contracted for should be taken in the name of this Company and paid for by it; be it

RESOLVED, that the officers of the Company be and they hereby are authorized and directed to cause to be registered in the name of this Company the shares in said Societe Industrielle du Titane and the interest in said Titangesellschaft m.b.H. so acquired by said Titan Co. A/S for account of this Company and to assume in the name and behalf of this Company all obligations incident to the ownership of such shares and interest; and that said officers be and they hereby are further authorized and directed to reimburse said Titan Co. A/S for the cost of said 56,888 shares of Societe Industrielle du Titane, including expenses in connection therewith, in the total amount of Kr. 209,272.55, with interest thereon to date of reimbursement, and similarly to reimburse said Titan Co. A/S for the cost of any additional shares in said Societe that may hereafter be purchased by it for account of this Company, up to a total of 65000 shares in all, at the price of 24 francs per share plus expenses and interest; and that said officers be and they hereby are further authorized and directed to reimburse said Titan Co. A/S for that portion of its preliminary expenses in the organization of said Titangesellschaft m.b.H. which is chargeable to the capital inter-

est therein acquired by this Company as aforesaid, amounting to Kr. 9,229.22, and from time to time to reimburse "the I.G." for the proportionate share of expenditures made by the latter in the organization and capitalization of said Titangesellschaft m.b.H. which are chargeable to this Company as half owner; and that said officers be and they hereby are further authorized and directed to take any and all such steps and to execute any and all such instruments as may in their judgment be necessary or expedient to carry out the intent of these resolutions and of the transactions herein referred to.

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Letterhead of

TITAN CO. A/S.

Fredriksstad, October 2, 1926.

EVANS MCCARTY, ESQ.,
c/o United Lead Company,
111 Broadway,
NEW YORK.

DEAR MR. MCCARTY.

The financial and business conditions in Europe after the war has as you know also had its very bad effects on the scandinavian countries.

Here in Norway we have had very severe crisis in banking, industry and shipping. I shall not take your time by a more fully description of the effect of these on the norwegian financiel conditions, the fluctuations of our currency etc.—and their effect on the Titan Co.

It has all the time been agreed upon by all concerned, that the regular business and the development of the Titanium industry was not be interfered with, and you know in a general way the work done and the results we have achieved.

In the spring 1924 a financiel reconstruction of the Titan Co. was effected whereby the original shares were written down from 9.000,000:-kr. to 900.000:-kr. and the share capital than augmented to 7.000,000:-kr., partly through cash payment and partly through the conversion of debts.

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The Titan Co.'s share capital after the reconstruction is:

Kr. 2.500,000:- pref. shares A 8% cumulative
" 1.000,000:- " " B 8% —"—
" 3.500,000:- ord. shares,

besides which it has a loan from two creditors of together ca. kr. 5.020,000:-.

The pref. shares A and B have two votes pr. share whereas the ordinary shares have only one vote. Of the two creditors the one has kr. 4.850,000:- and is at the same time the holder of a majority of the shares.

It has been thought that these holdings should be kept until the business was sufficiently developed, the company could pay dividends—and the shares could be brought on the market.

The rapid rise of the norwegian exchange has delayed this development.

My investigations this summer as well as my pending negotiations with the Interessengemeinschaft have shown clearly that Titaniumwhite can be more advantageously made outside of Norway than here.

During the negotiations with I. G. the above mentioned largest shareholder and creditor has been approached by an intermediary here in Norway with the purpose of a purchase of their interest in the Titan Co.

The approach is such that a disposal of the interests is considered.

When I was informed of this I thought it only fair to let you know and give the National Lead Co. or Titanium Pigment Co. the first opportunity, and as I have received the mandate to sell their interest, I write you herewith to ask if the matter is of interest to your companies.

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It is understood, that the other shareholders shall be protected, or with other words an opportunity given them of a sale of their holdings on the same terms.

I presume that they will follow the majority and the entire interest in the Titan Co. can be acquired.

The shares I dispose through the mandate and personally are:

Kr. 1.133,200:- pref. shares A
" 1.000,000:- " " B
" 2.514,500:- ord. shares.

It is not necessary for me to point out to you the advantages for the development of the industry and for your interests to have the whole matter in one hand and personally I will look upon this with sympathy.

It is not known, who the above intermediary represents, but it is not difficult to guess, as he generally has german connections.

The most important of the Titan Co.'s assets are in short:

1). The patents, experiance etc.

a) North America or our contract with your companies.

b) The rest of the world under which our license to Sté Industrielle du Titane.

2). *The factory in Fredriksstad*, which you saw in 1921. Since then supplementary installations have been made for ca kr. 700.000:- and during the last winter and this year we are making various installations besides a factory for a weekly production of 100 tons Blanc

Fixe paste representing an expenditure of ca kr. 200.000:-. The Blanc Fixe. factory is calculated to reduce our costs on that account with about kr. 50:- pr. ton of 70% Blanc Fixe paste.

3). All the shares in *A/S. Titania*, a company which possess the *mining rights* of the ilmenite deposits in Sogndal.

This are estimated to give at least 5 to 6 million tons of 40% ilmenite concentrates.

It has plants for a yearly production of 10.000 tons ilmenite with 40% TiO_2 with 3 shifts operation.

This autumn will be installed a magnetic separator (Ullrich system) which shall concentrate the ore to 44% TiO_2.

Installation cost kr. 20.000:-.

The capacity of the plant is calculated then to be yearly 8.000 tons ilmenite 44% TiO_2 in 3 shifts operation.

The mine and the plant is connected with the Raegefjord harbour, where we have a silo and loading arrangements, by a railway of 8 km. length belonging to the company.

4). 889 shares of a total of 900 in *Lysaker kemiske Fabrik*, near Oslo, which is a company established about sixty years ago for the manufacture of sulphuric acid and superphosphate. It has a production capacity of about 9.000 tons sulphuric acid monohydrate of which the Titane Co. was supplied last year with about 5.000 tons and the rest was used in the manufacture of super-

phosphate besides a small quantity sold as such. It works with the chamber process and its plant for concentration has only this capacity of about 5.000 tons 92% acid; which is fully occupied by the deliveries to our factory in Fredriksstad.

5). A working capital as per enclosed extract from the balance sheet of 31, August in total *kr. 2.258,886:50.*

On the above mentioned installation of together kr. 220.000:- payments have been made per 31 August of kr. 40.000:-.

It is impossible in a letter to give you a detailed account of the various interests and I suggest therefore if your companies are seriously interested that I come to New York with all necessary to negotiate the matter.

Under the present circumstances I should appreciate a cable from you, and will on the receipt of same arrange my passage soonest possible.

With the kindest regards,

Yours sincerely,

E. JEBSEN

Enclosure.

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EXTRACT FROM TITAN CO.'S BALANCE SHEET PER AUGUST 31, 1926

WORKING CAPITAL:

1) *Materials in stock*			
Sundry materials	Kr.	39,489:—	
Raw materials	"	191,511:11	
Products partly prepared	"	612,389:37	
Pigments and Pastes	"	279,521:54	
Consignment stocks	"	106,223:60	
Raw materials for grinding paste in Belgium	"	8,686:40	Kr. 1,237,821:08
2) *Debtors*	Kr.	434,004:87	
Less Creditors *)	"	232,274:52	" 201,730:35
3) *Bank Deposits*			
Fredriksstad og. Omegns Bank A/S.	Kr.	300,477:89	
Foreign Banks	"	208,493:08	" 508,970:97
4) *Bills Receivable*			
Foreign bills	Kr.	210,105:68	
Domestic bills	"	97,634:27	" 307,739:95
5) *Cash Account*			" 2,624:21
			Kr. 2,258,886:50

*) A sum of Kr. 72,000:— to be paid in four yearly instalments of Kr. 18,000:— not included herein.

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UNITED LEAD COMPANY

Confirmation of Telegram

OCTOBER 23, 1926

WEEKEND CABLELETTER

WLT
JEBSEN
TITANCO
FREDRIKSSTAD NORWAY

HAVE DISCUSSED SUBJECT YOUR LETTER SECOND WITH MY ASSOCIATES INFORMATION NOT SUFFICIENT TO REACH DEFINITE CONCLUSION BUT VERY INTERESTING WOULD LIKE TO DISCUSS MATTER WITH YOU HERE

MCCARTY

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DR. G. JEBSEN.
Titan Co. A/S
Fredriksstad, Norway

October 25, 1926

DEAR DR. JEBSEN:

I was greatly interested in your letter of October 2nd, but did not reply immediately as the transaction contemplated is an important one, and I wished to have an opportunity to discuss it with Mr. Cornish before communicating with you. I had this opportunity the latter part of last week, and on the 23rd instant sent you a cable as per copy enclosed.

Your letter gives quite complete information as to the capitalization of the Titan Company and the sums invested by the original shareholders, but makes no mention of the price at which the shares you are authorized to sell can be purchased. Without this information we cannot, of course, reach a definite conclusion, but we presume that if you come to New York you will bring with you full information on that point.

Whether the interest in your Company which has been placed in your hands for sale is purchased by the National Lead Company or by the German interest to which you refer, the subject is of great interest to us, and we would like very much to have an opportunity to discuss it with you before any transaction is concluded. In considering purchase of this interest by the National Lead Company, we would do so with the hope and expectation that your personal interest and connection with the business would be continued.

Anticipating the pleasure of seeing you in the near future, I am with kind personal regards,

Yours very truly,

.....

Vice President

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January 13, 1927

Mr. E. J. Cornish, President
National Lead Company
Building

Dear Mr. Cornish:

In your letter to me of the 12th instant regarding the proposal made to us by Dr. Jebsen you speak of your willingness to buy the physical assets of the Titan Company including the mine in Norway.

I have been unable to get Dr. Jebsen to express a definite opinion as to the proper value to be placed upon this mine, and I have found some difficulty in forming an opinion of my own as so much depends upon the future of the industry. Dr. Jebsen tells me, however, that not less than $500,000 have been spent upon the development of the mine and the installation of mining and concentrating equipment and in the rehabilitation of the railway connecting the mine with the harbor.

I think, therefore, that for the purpose of further study of Dr. Jebsen's proposal we may consider the following statement of the relative values of the Titan Company's properties as approximately correct:

Liquid Assets (Cash, Merchandise, Customers Accounts, etc.	$440,000
Sulphuric Acid Works at Oslo	125,000
Factory at Fredriksstad (Scrap value)	50,000
Mine	500,000
Patents, trade-marks, good-will, etc.	1,190,000
Total Purchase Price	$2,305,000

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Should we accept Dr. Jebsen's offer and purchase the shares of the Titan Company we could follow whatever policy we may desire with respect to licensing other manufacturers in Europe such for instance as the I. G. in Germany. Should we elect to develop the industry by building factories in Europe additional capital will be required.

From the information at hand it is difficulty to tell the exact amount, but it will probably be between $1,500,000 and $2,000,000 so that if we go into the enterprise we should contemplate a total investment of approximately $4,000,000 within the next two or three years. This amount would probably be reduced by whatever amount of European capital we might associate with us.

Assuming that a titanium pigment similar to our Titanox can be sold in Europe at a price 60% above the present price of lithopone, we may, I think, look forward at the end of the first five years to a minimum return of $450,000 or something over 11% on this investment after allowing for European income taxes. If the enterprise is successful the returns would, of course, be much larger.

In making this estimate of possible profits no account has been taken of royalties from America. It is obvious, however, that if the business of the Titanium Pigment Company grows as we expect it to the European company will receive revenue in the form of royalties if its own business does not develop at an equally rapid rate. If the European business does develop as rapidly as the American business there will be increased profits due to increased sales.

It seems to me, therefore, that unless we are mistaken in the outlook for the titanium industry the prospects for the business in Europe are promising although the venture

is not free from the hazards which attend all new enterprises and the initial investment is rather large.

I have discussed with Dr. Jebsen your suggestion of developing the business under a license from the Norwegian Company which would contemplate the payment of royalties instead of the purchase of the patents etc., for cash, but he holds out no hope that the suggestion would find favor with the Fredriksstad Privatbank who now control the Company.

As this is Dr. Jebsen's last week with us I should like to discuss the matter a little further with you this afternoon if convenient for you.

Yours respectfully,

Vice President

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GJ/HS

Letterhead of
TITAN CO. A/S
No. 84.

Paris, May 10th. 1928.
Sté Industrielle du Titane,
26 Rue de la Pépinière.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I beg to acknowledge receipt of your favours of April 13th., 18th., 20th. and 27th..

Your letter of April 13th.

I have read the information about the I.C.I. with interest. The news of the Anglo-American Corporation—of a capital of $10.000.000 has been published in Europe—and I have noted that besides Sir Harry McGowan also Mr. Mittchel of the I.C.I. is a member of the Board of the new company. As far as I can see, the American interests are chiefly financial, whereas the British interests are from industrial circles. I wonder why the Dupont company, which is so closely connected with the I.C.I.—especially personally with Sir Harry McGowan—through their explosive interests—has not taken a part in the company.

I have read with interest the press cutting enclosed in your letter of April 20th. regarding a British patent granted to Laporte. As Monk & Irwin already have a patent in Great Britain re calcining with carbonaceous ma-

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terial, I presume that the patent of Laporte concerns a specific feature, probably the use of the specific Blanc Fixe referred to. Laporte has a patent process for the production of Blanc Fixe—we have tried this but could not obtain a satisfactory tinting strength with it.

I have read with much interest your comments in your letters of April 18th. and 20th. as to Montecatini and the Auer Co.

You are right that there is a co-operation between the I.G.I. and the Montecatini in certain matters. You will have seen from my letter of April 5th., page 4, that I indicated to Dr. Kühne, that we may be inclined to make some sacrifices with regard to Italy and Montecatini—and Dr. Kühnes answer that Montecatini's factory's capacity is based on export as well as sales in Italy. The I.G. has a factory for Lithopone in Italy, and as they have previously wanted Italy included in the Titan G.m.b.H.s territory,—the idea indicated may not appeal to Dr. Kühne.

However, the situation has not yet developed far enough to give a clear picture, and as you say it shall be very interesting to see how Dr. Kühne's ideas in these matters will develop. (in view of the I G's experience in patent matters).

It looks to me that we for the time being only can watch developments as closely as possible, and where opportunity comes establish contacts.

It is too early to measure the strength of the various companies as to their commercial and manufacturing position.

Montecatini seems to be the most interesting because of the importance of the company and its Sulphuric Acid position, and it is also to be presumed that the policy of Mussolini will be in their favour.

A fight on the basis of our patents can not very well be started in Germany before we manufacture there—and

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in France not before the new law regarding the working of patents mentioned by me in New York has come into effect. The position in England as to this question I will take up with an expert when I arrive there.

As mentioned the stipulations of the law in these matters are under reconsideration in nearly all European countries, and I was told when last in Leverkusen, that the last Hague Conference went in favour of making these stipulations less demanding.

If we win a patent fight in Germany, I think this will have a moral effect on the others.

There is also the question of making use of our patents to prevent import, but this is a more complicated procedure, as a law suit will be conducted in a country where the infringers do not produce, and the proof being on the basis of a manufacturing process will mostly need evidence taken in another country. I looked into this matter in Denmark last year, and understood that any evidence we wanted from Germany for a law suit in Denmark necessitates the aid of the diplomatic representatives.

I note that you expect Mr. Robinson in the latter part of this month and shall be much interested in any news regarding his enterprise in Avonmouth. There has recently been a Conference in Brüssels, where all European Zinc manufacturers were represented, which had the purpose to regulate the production and prices in order to stabilize the last. Mr. Pisart mentioned that the idea was to keep the price for Zinc about £26.0.0d. From the newspapers it seems that the Conference was a success. This may have a stabilizing effect also on the prices of White Zinc in Europe.

With kindest regards,

Yours very truly

G. Jebsen

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TITAN COMPANY

NEW YORK, N. Y.
December 23, 1926

TITANIUM PIGMENT CO., INC.
94 Fulton Street
New York, N. Y.

DEAR SIRS:

Referring to conferences with Mr. McCarty last summer and during my stay here and with Mr. Meredith last week, I beg to submit the following:

During this year negotiations have been carried on between the Interessengemeinschaft Farbenindustrie Aktiengesellschaft (I. G.) and the Titan Company regarding a license under our patents and under the agreement between your company and us of 1920.

The I. G. is a limited company formed by a fusion of the important German dye manufacturing firms as well as several other chemical industries. Its activities are so manifold and varied that there are comparatively few lines of chemical industries in which the firm is not active. Although I presume this is well known to you I mention it because of its bearing on our negotiations and eventual relation to the I. G.

In view of this situation namely it was already at the first stage of the negotiations clear that I. G. could not be expected to enter into an arrangement based on mutual exchange of patents, method, experience, etc., to such an

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extent as is foreseen and natural for firms of the character and purpose as your company and ourselves.

During Mr. McCarty's visit in Europe last summer I took the opportunity to discuss the matter several times with him as well as representatives of the I. G. with the result that the I. G. and I agreed upon a restriction of the definition of the licensed field to be applied in the eventual agreement with them. This should also express the views which were the result of Mr. McCarty's and my conferences. I enclose herewith the definition which I have already had the pleasure to submit to and discuss with Mr. McCarty and Mr. Meredith and will be obliged to hear from you if you are willing to accept an amendment in our agreement of 1920 permitting us to make an agreement with the I. G. with a definition of the licensed field amended according to the proposal. I shall not nearer point out the advantages and disadvantages of such an amendment as this has been discussed with your Mr. McCarty and Mr. Meredith.

I beg only to mention that I consider this condition from I. G. as reasonable in view of their various activities and believe that the drawbacks will be balanced by the advantages of the cooperation with this concern, and probably will more than so in your case as it adds to the mutual development work the technical and scientific forces of the I. G. which are generally considered very important.

During my latest conferences with Mr. McCarty and Mr. Meredith some alterations of the enclosed proposal have been discussed. If you consider such desirable or necessary and as our interests in this matter are parallel I beg to suggest that your proposals leave open a certain liberty of action for instance by sending me various alternatives in order to further the negotiations. I beg at the

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same time to mention that the further negotiations with the I. G. will probably lead to proposals re other amendments of the contract of minor importance. It is, however, too early to submit anything definite in this respect. I may mention that during my negotiations following points have been taken under consideration, and will appreciate to hear from you if you consider that changes in these directions are objectionable to you.

ad art. V.

It is not possible for the I. G. to exchange its inventions within two months after a patent application is made because the inventions made within the I. G. concern according to their own regulations are exchanged within their own organization only within two months and the further exchange with the Titan Company is then only possible after this period.

As the Titanium Pigment Company and the Titan Company have agreed until further to operate in a somewhat different way from what is foreseen in Art. V I suggest that this article is made the subject of discussion during my visit here.

art. VI. b.

Re statement of the yearly production of TiO_2 under which royalty is to be paid.

Statement under oath is not general practice in Europe. I. G. proposes to give statements as generally practiced and oblige themselves to let us control the statement by a confidant if we so desire.

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I beg to remark that the consent of the National Lead Company and the Titanium Alloy Manufacturing Company as parties to the agreement of 1920 also will have to be acquired regarding the amendments, and will appreciate if you will submit the matter to these two companies already now if you consider that it will meet with any objection on their part.

As the I. G. at our last meeting expressed the desire to see the agreement made and cooperation started with the least possible delay and this presumably also is in the interest of your company and ourselves, I beg to suggest that you make arrangements to deal with the least possible delay with the final agreement between I. G. and the Titan Company which is supposed to be negotiated and submitted to you as soon as possible after my return to Europe.

Yours very truly,

G. JEBSEN.

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Berlin W.
March 3, 1927

Evans McCarty Esq.
c/o United Lead Co.
160 Broadway
New York.

Dear Mr. McCarty:—

I arrived here Tuesday morning from Paris and was received by Mr. Warburg in the afternoon in a most friendly way.

Mr. Warburg asked me to extend to Mr. Cornish and yourself his kindest regards.

After I had explained the question to him, he proposed to consult his special confidential adviser in matters of chemical industry. We discussed then the situation Wednesday and Thursday mo morning about an hour and a half each day and Mr. Warburg was so kind to give the question a very intent and serious consideration.

Following firms were named in connection with a development in Germany:—

Auergesellschaft
Kunheim
I. G.
Sachtleben

The two first were dismissed practically immediately.

Mr. Warburg's opinion of the leading personalities of the Auer Co. confirmed my impression mentioned to you. Kunheim is financially weak. It remains J. G. and Sachtleben.

Sachtleben as I recently wrote you belongs to Metallbank and forms a part of the Gelsenkirchener concern

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A. J. Thomsen informed me in Paris that the Metallbank group has acquired several smaller Lithopone factories and Richard Merton is the most important personality in Lithpone today in Germany. Mr. Warburg's adviser who seemed to be very well informed said that Metallbank together with J. G. controlled today 82% of the German Lithopone production. You know that J. G. and Sachtleben work together with regard to sale and exchange of experience.

Further has J. G. its supplies of Barytes from Sachtleben who owns important deposits in Westphalia.

As to the question of a choice between the J. G. and Sachtleben (Metallbank) I understood that Mr. Warburg considered J. G. more sympathetic with regard to the leading personalities.

I put frankly before him the question of the future of the J. G. whose organization is in a melting pot. He thought it would turn out allright, but I understood that it mostly depends upon the one man, Mr. Porsch, at present who however had assured him, that he was arranging for successors.

Mr. Warburg had quite an open eye for the imperialistic tendency of the J. G. and was especially during the first and second conversation much inclined to the alternative Mr. Cornish touched in a conversation with me to go with us half and half for Germany and neighbour countries to the east and southeast. I understood he was very satisfied with his cooperation with National Lead Co. and appreciated this.

In favor of the first speaks the important position of I.G. with regard to prestige, selling organization, eventual consumption of Titaniumproducts in other parts of their organization, production facilities and inventive power.

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In the other case a slower development of the sale must be expected, and we will have to be prepared on a fight with the J.G. not only in Germany but also elsewhere.

Mr. Warburg expressed the situation very good in the following few words:—

In the one case there may be trouble at home in the other case outside of the home.

We finished that second conversation with a request on my part of information as to certain factors of importance if we started without J.G. Mr. Warburg thought it would not be difficult to find reliable and able men for the organization to be formed. Sulfuric acid will also easily be available.

As to Barytes, his adviser would tell me the next day. There are many deposits of Barytes in Germany but not all equally good. We adjourned the deliberations to the nxt day.

Mr. Warburg's adviser confidentially informed us next day, that he thought a certain deposit of Barytes of the very best could be acquired because of the difficult financial position of the owners, and as Mr. Warburg should meet their bankers within short, he would try to take a feeling with regard to this.

I understood that his adviser was much in favor of an arrangement with the J.G. and that we even should try also to have Sachtleben with us.

He meant that with the productionprices for Titaniumwhite which I had indicated, we need have no fear that the Lithopone makers will not push Titaniumwhite anyhow, and it will give them *a strength vis à vis Pissard* with whom they are now fighting.

He meant that an arrangement guaranteeing the future good cooperation was a juridical question.

Mr. Warburg agreed however with me that a contract never works, if the parties are not satisfied and it not only *is*

to mutual advantage but it must also be believed to be to mutual advantage.

However, Mr. Warburg finished with the advise that I ought first to try to make an arrangement with J. G. and eventually if during the negotiations I felt it could be done also to try to have Sachtleben (Richard Merton) into the combination.

I understood that Mr. Warburg coming to this conclusion considered it a great advantage that we then will have no competition with J. G. in the other countries, but that J. G.'s interest with us would rather be an important advantage in these countries.

I pointed out that National Lead Co. wanted in all cases to have 50% of the shares and Mr. Warburg meant that the other 50% will have to be divided between those.

It was agreed that I take up the matter with J. G. and see Mr. Warburg in Hamburg after I had seen J. G.

He mentioned the thought that we should buy the Barytes deposit first and than go to J. G. in order to have a stronger position. However my negotiations with J. G. have been such that I do not think this will create a favorable impression, and Mr. Warburg agreed when I informed him that it was J. G. who had approached me last year and not the opposite. He kindly offered me the use of his name if this should be advisable. It will depend a little upon circumstances when it will be wise to do so.

These deliberations with Mr. Warburg were very interesting and will certainly prove to be very useful and I will now take up the question with the J. G. on the basis of 50% and 50%, which from the talks I had with Mr. Cornish and you I understood will be in accordance with your views.

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I think however that we ought to be prepared that the J. G. will refuse to negotiate on this basis, being far away from its principles in these matters.

Mr. Warburg's technical adviser pointed out that this principle of 50 and 50 was J. G.'s own for foreign countries, and therefore they should not be against it. However J. G. may consider that differently. If J. G. will negotiate on that basis, it will be very interesting to see if there is any opportunity also to draw in Sachtleben.

A division between J. G. and Metallbank of 50% of the business will though probably be too small an interest for any of them, and I am therefore afraid that this will be a trial to grasp over too much and that neither Mr. Warburg nor his adviser are fully aware that the development of the sale of a new pigment is a comparatively slow business and Titaniumwhite is not old and established enough to be used in such way.

If however, the opportunity is there for such a combination, then the situation of Lithpone in Germany must be a desperate one.

(Mr. Thomsen informed me that Lithopone is now down to £ 18.10.-0. They are trying to make arrangements to increase the price to £ 20.0.0 but have not been able to come to an agreement.)

Another danger with such a plan is the point that such negotiations are likely to take more time than we should loose on such a trial. This can be avoided to a part by acquiring the deposit of Barytes and making other preparations for an independent development of the industry which also will have a moral effect on the negotiations.

The purchase of a good deposit of Barytes in Germany I will beg you to consider seriously and write me your opinion as this is a matter of importance for our future operations.

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The fact that J.G. has no Barytes deposits may bring them to consider this purchase.

The deposit is next to the deposits of Sachtleben and belongs at present to Rhenania.

Rhenania you will remember has joined together with Kunheim and furnishes us with Bariumcarbonate.

I have above tried to give you a survey of the whole situation and I shall appreciate very much to hear from you.

I must confess that I find it a certain difficulty to know how far I can go in the various matters and on the other hand things cannot be held up too long if results shall be achieved.

I understood from Mr. Cornish and you that you both were willing to look upon the development in Europe with broad views, but you will understand that I feel to be in the dark to what extent you will go and especially how quick you will go.

For instance when Mr. Warburg offered to investigate the question of the Barytes mine, I did feel not to have any authorization to encourage this at present.

We have not discusses such a matter in New York and I have not considered it necessary to go to a purchase already now, but if a special opportunity offers itself, it is of such an importance* that I did not feel it wise to restrain Mr. Warburg in his investigations.

Looking very much forward to a letter from you, I beg you to extend my very best regards to Mr. Cornish and your colleagues,

and am with my kindest regards

Yours very truly

G. JEBSEN

*eventually also for our supply of a factory in France and England.

Exhibit 79

Letterhead of

TITAN CO. A/S.

Fredriksstad, March 12th 1927.

Gj/EH

EVANS MCCARTY, ESQ.,
United Lead Company,
111, Broadway,
New York.

DEAR MR. MCCARTY:

I arrived from the Continent yesterday and received your letter of the 23rd of February today, as it had been forwarded to Hamburg and arrived there a few hours after I had left. Your letter deals with my letter of the 12th of February. In the meantime I have sent you letters the 15th, 16th and 19th of February and 3rd and 4th of March, from which you will have seen what has happened in the meantime with regard to the situation in France and Germany.

Tuesday morning the 8th I arrived in Cologne and saw Director Kühne of "I.G." in Leverkusen together with his secretary Dr. Raspe and Dr. Weber, the patent lawyer of that part of the organisation of "I.G." (formerly Bayer).

I informed them of the National Lead Company's purchase of the shares of the Titan Co. and also that you are willing to cooperate with the "I.G.", the basis, however, to be that the Titan Co. is interested with 50% in the German enterprise. A limited company will have to be formed to that purpose and we were willing to have the works erected in connection with their works or at another suitable place,

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and they deliver raw materials as sulphuric acid and blanc fixe etc. and we the ore. This will have the great advantage that we can reduce the royalty to Kroner 25.—per ton of TiO_2 to be paid as long as our obligation lasts vis-a-vis "Elektrokemisk". This proposal is according to the basis we agreed upon.

This proposal should facilitate the solution of several questions as for instance also the minimum royalties then will fall away.

I also presented him the definition of "licence field". He objected to the word "marketing" in provision 1. with the remark that if nitro-cellulose laquer should become a very important article for white lacquer, their method of incorporating pigments in this lacquer will be included in the "licence field" and they will be prevented from any arrangements with for instance DUPONT, their most important competitor.

Nitro-cellulose lacquer they think seems to have large possibilities; personally he thought that Titanium white always will have its main outlet as an oil-pigment but—!

I told him that National Lead Co. did not object to the instances put forward amongst which nitro-cellulose lacquer. On the other hand the word "marketing" could not be left out.

If there shall be any possibility that "I.G." develops a method resulting in a consumption of Titanium white of such importance that it will have an influence on the production cost and the risk that "I.G." will give for instance DUPONT the exclusive licence enabling this firm provided it will start manufacture of Ti-white to cut us out from this market for Titanium white, then we will prefer to work without "I.G.".

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It is not the intention of the National Lead Co. and the Titan Co. to prevent "I.G." to exploit inventions like nitro-cellulose lacquer and take the profit of such exploitations themselves, but we will be secured to deliver the Titanium white at competitive prices and not risk that any such invention shall be used as a basis to breed a competitive production.

Mr. Kühne seemed to understand that standpoint. He said however only that he was afraid that "Badische" will not agree because of the nitro-cellulose lacquer.

This point in general I am afraid will be a very difficult one. It will be a question for the "I.G." which interest will be the most important for them in such case.

Let me take another example.

If "I.G." should find an ideal medium to replace linseed oil for paint purposes in general and which also solves for instance our problem of chalking,—shall the "I.G." then be bound to give it to us or can "I.G." exploit it for themselves provided they do not act in such way that we are prevented from marketing our Titanium white to the producers of paints made with such a new product?

Personally I interprete the definition of the "licence field" (as worked out in New York) in the latter way and think this is the best we can do with the "I.G." situation.

If "I.G." makes an invention of that kind, they are likely to do it also without us and if we cooperate together with them, it is more likely that an arrangement with them can be made than else.

If we had had an organisation for the exploitation of Titanium white and other Titanium products developed to the extent that we manufactured all kinds of "finished articles", our situation would be a different, and if the

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organisation of National Lead Co. and the Titan Co. is developed further on the lines indicated by Mr. Cornish at the lunch with you shortly after my arrival, we will also if such case arises, present more of interest for "I.G.". However, this brings the thoughts into questions which are not to be dealt with at present.

Mr. Kühne asked if it is our intention to continue the factory in Fredriksstad or that the German company produce for us. I told him that we did not intend to change this part of the program from what was previously forseen. We are still willing to take from the German company and have in our program also to erect factories in France and England or elsewhere where it is opportun.

I gather this is an important point to him in order to reduce the production cost in the first years.

Mr. Kühne told me he would present the matters to his co-directors at a meeting to be held in Frankfurt Thursday and Friday this week and inform me soonest possible afterwards. If the basis was accepted by the board, he would write me and wanted that we should start immediately to draw up the agreements, as he considered it very important to start operations without losing any time.

He mentioned the competition of the Auer-company. Although their products were not satisfactory and had a bad color, they may improve this and it was very important that we take hold of the market before the competitors.

He also mentioned Montecatini in Italy. I could tell him that my French friends (it was Merigeault) had informed me that Blumenfeld, Thann & Mulhouse, (Montecatini's collaborators) do not seem to represent a danger. It seems to be much more talk than facts.

I asked them if they had met Mr. Blumenfeld. This question seemed to take them by surprise. They answered

Exhibit 79

"Yes" and Dr. Weber characterized him as a smart fellow (gerissener Kerl).

They talked to me about the process of MacArthur Irwin in Canada and on my question if they had seen him, they also with some hesitation confirmed this, hasting to explain that they for years already have had connection with him. Your letter informing me of MacArthur Irwin's arrival in Europe came in well there.

At a suitable moment I touched the question of "I.G." taking "Sachtleben" into the Titanium enterprise. Mr. Kühne however, was against this saying he could see no reason. "I.G." is not dependent upon Sachtleben with regard to barytes, as they own one deposit together. Sachtleben has touched the question of making Titanium white with "I.G." but they have made no work whereas "I.G." has done considerable. If and when Titanium white develops to a competitor with lithopone, then would be the time for "I.G." to consider to take their friends in lithopone into cooperation, but at the present moment Sachtleben could not bring anything of interest.

I did not insist on this further partly because I see his point of view and also partly because I understand Mr. Warburg did not consider a cooperation with these people very appealing.

Sachtleben has a large pyrites mine containing a certain percentage of zinc and after the sulphure has been burnt off, they extract the zinc of the cinders. Consequently the zinc in that material has only the value which the lithopone gives it. They have large barytes deposits at Meggen and besides these "I.G." and Sachtleben own a large deposit at Meggen together. Mr. Kühne said that these Meggener

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deposits deliver the best quality of barytes for the production of black ash and the products de be derived therefrom.

My general impression has been this, but the information is of interest in view of the barytes deposit of RHENANIA in the same district, which I mentioned in my letter of the 3rd of March.

As I told Mr. Kühne that an agreement with the "I.G" could not be definitely concluded before the concession of the Norwegian Government was granted and you had taken over the shares, he got very impatient saying that they had now waited 4 months* because of my trip to U.S.A. and it could no go on like that with indefinite postponement.

Novbr,
Decbr,
January
February

I told him that the National Lead Co. and the Titan Co. had all interest to push the grant of the concession and as there were all reasons to consider that the concession will be given and the National Lead Co.s purchase of the shares be effected, negotiations between the "I.G." and the Titan Co. could be done in the meantime, so that little time will be lost.

I believe his impatience was partly an expression of his disappointment that the "I.G." has not acquired the shares of the Titan Co. Some remarks later from his secretary leads me to these thoughts. However, they have the right to demand consideration with regard to the furtherance of the negotiations without any delay on our part.

I therefore believe it will be wise to take up the negotiations with them immediately in the case they accept our basis of 50:50, and beg you to cable me on receipt of this if anything in the present or previous letters makes it desirable to postpone matters, or you wish me to receive a letter from you before going further.

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During the conversation with Mr. Kühne I mentioned that the National Lead Co. already cooperated with Mr. Warburg in an enterprise in Germany and that Mr. Warburg had expressed to me his great satisfaction with this cooperation and also expressed himself in the highest terms regarding the leading personalities of the National Lead Co.

I mentioned this in connection with discussin of the "licence field" and also told him about the spirit and relation which has existed between the National Lead Co. and the Titan Co. during the last 6 years.

I suppose you have returned from your trip to the South at this time and hope you have enjoyed the trip.

With kindest regards,

Yours truly
G. JEBSEN

P.S. Wednesday the 9th I saw Mr. Max Warburg in Hamburg and informed him about my visit to Leverkusen. He had no remarks to make.

I asked him kindly, if he had the opportunity to express to Mr. Bosch his views upon the National Lead Co. especial with regard to the characters of the leading personalities of the company. He told me that Mr. Bosch was a man of sentiment (Gefühlsmensch) and that he will tell him that in cooperating with the National Lead Co. and the Titan Co., the "I.G." will come into a good family.

He awaited a visit of Geheimrat Bücher, the secretary of Mr. Bosch, the next week and will use that opportunity.

He asked me to keep him informed and offered to do the same to me, for which I am much obliged to him.

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March 25, 1927

Dr. G. Jebsen
Titan Co. A/S
Fredriksstad, Norway

Dear Dr. Jebsen:

Since writing you on the 18th instant I have received your very interesting letter of the 12th telling of your interview with Director Kuhne of the I. G.

We are in entire sympathy with the course you have been following as it is in accord with our conversations when you were in New York. It is, therefore, unnecessary to make any further comment until we have your report of the I. G.'s reply to your proposals. In the meantime, we will give some thought to the points suggested by Mr. Kühne.

There are, however, a few matters in connection with the visits of our engineers and others to Europe about which I would like to have your advice. In previous letters I have informed you that we are arranging to have the mine examined by our Mr. Hallett, and in my letter of February 23rd I enclosed a letter from Mr. Hallett asking for some information and outlining some preliminary work that would expedite the inspection. Mr. Hallett now informs me that owing to some work he has in hand here it will be inconvenient for him to arrive in Norway before the 1st of May. It is quite possible that this will be in ample time, but I should like to have your opinion on that point; also advices from you as to whether it would suit you to visit the mine with Mr. Hallett in the early days of May.

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Mr. WASHBURN: I think that we are now in a position to spare Mr. Washburn for a short visit to Europe at whatever time will be productive of the best results provided that the visit can be made sometime during the next three or four months. I do not know just what your thought is on the subject, but it has occurred to me that if you think it wise to have Mr. Washburn come over before the new concessions have been granted we could have an understanding that Mr. Washburn's expenses would be paid by the Titan Company. These expenses would, therefore, be for your account if the concessions were not granted, and for our account if the purchase of the Titan Company was concluded in accordance with our arrangement with you.

One of the members of our auditing staff is now in Hamburg where he has been located for the past two years. He expects to return to America on the 1st of July, but it has occurred to me that if agreeable to you we could have him make such examination of the books and accounts of the Titan Company as to verify the amount of working capital, thus saving the expense of employing an outside auditor such as Price Waterhouse & Company. If this is agreeable to you we will make the necessary arrangements, but if not, we would suggest that Price Waterhouse & Company be employed for that purpose.

There have been some new developments in connection with the white lead business in England, and it is possible that I may find it desirable to go to London before going to the Continent. In that event I shall probably leave here early in May, and after spending a short time in England be in a position to meet you in Norway or at some other point on the Continent the latter part of the month. This

plan, however, is only tentative, and can be changed to suit conditions as they develop.

As we may have to move rather quickly at the end, I would suggest that you use the cable freely in keeping us advised as to developments on your side and your advice respecting them.

With kind personal regards, I am,

Yours very truly,

Vice President

Exhibit 81

Letterhead of

TITAN CO. A/S

Fredriksstad, March 16th 1927.

GJ/EH

Evans McCarty, Esq.
United Lead Co.
111, Broadway,
New York.

Dear Mr. McCarty:

I have today received a letter of March 14th from Mr. Kühne of "I.G." as copy enclosed. The following is a rough translation:

> "According to wish, I should like to inform you today of the result of the consideration of your proposals at the Board Meeting in Frankfurt.
>
> "The "I.G." agrees in principle to form a company together with the Titan Co. in which both parties have an interest of 50%.
>
> "The fixation of further particulars can now, as discussed, be proceeded with as soon as possible."

Referring to my letter of the 12th instant, I shall appreciate to hear from you as soon as possible in this matter.

I suppose it will not be long before I receive a proposal to an agreement regarding the "G.m.b.H." (Ltd. company), which it was agreed Mr. Kühne would send me, and I shall have to make a draft for a license agreement as soon as possible.

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I was in Oslo yesterday, and will have to go in there again the day after tomorrow (Friday) regarding the Concession.

The application for the Concession has been delivered to the Government by Mr. Vogt, and matters are proceeding at present without delay. This case absorbs however rather more time than one would think, because so many persons are involved.

With kind regards,

Yours very truly

G. JEBSEN

Enclosure.

Exhibit 82

RADIOGRAM

GC 37 LCM NWK 1219 APR 8 1927 AM 9 50

FREDRIKSTAD 47 8TH 15 15

LCD MCCARTY CARE UNITED LEAD NEW YORK BELIEVE BEST TIME YOUR ARRIVAL NORWAY BETWEEN FIFTEENTH AND TWENTIETH MAY AND PROBABLY SEE IG ULTIMO MAY STOP KUEHNE TELEGRAPHS PROPOSAL AGREEMENT SENT ME AND ASK ME COME LEVERKUSEN ABOUT TWENTIETH APRIL AS HE LEAVES TWENTY THIRD APRIL FOR FOUR WEEKS

JEBSEN

133B

Exhibit 82

April 8, 1927

Dr. G. Jebsen
Titan Co. A/S
Fredrikstad, Norway

Dear Dr. Jebsen:

I am enclosing copy of my telegram of yesterday asking if you could tell me when I shall be needed in Norway, the information being desirable in order that I might make some other engagements. This morning I have your reply reading as follows:

> "Believe best time your arrival Norway between fifteenth and twentieth May and probably see IG ultimo May stop Kuehne telegraphs proposal agreement sent me and ask me come Leverkusen about twentieth April as he leaves twentythird April for four weeks"

In view of the information in your telegram I shall probably follow the plans already tentatively formed and sail from here for England on the 30th of this month. This will enable me to spend a week or ten days in London as may be necessary, and to arrive in Norway before the end of May. I do not believe that it will be possible for me to arrive as early as the 20th.

In connection with the visit to Norway I am wondering whether in the month of May it will be more favorable for us to go via Newcastle and Bergan or by rail through Germany. In the latter case I am under the impression that we could leave the train at Fredrikastad without going as far as Oslo. Will appreciate your advice. If time does not

permit communicating with me before I leave New York, a note to London care of Greeff & Company will answer the purpose.

Anticipating the pleasure of seeing you again before many weeks, I am, with kind regards,

Yours very truly,

Vice President

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Mr. McCarty.

COPY

April 29, 1927.

My dear Mr. Warburg:

Our Mr. Evans McCarty, whom you met when we were in Hamburg, is sailing today duly authorized to represent the National Lead Company in all matters in which it is interested in Europe. His particular duties at this time are in connection with the Titan Company of Norway, whose purchase he negotiated, and any developments that may take place in Germany looking to the manufacture of titanium pigments there.

Needless to say, Mr. McCarty is one of our most capable and trustworthy officers, and any assistance that you may give to him will be very much appreciated by us.

Sincerely yours,

(Signed) EDWARD J. CORNISH

Max M. Warburg, Esq.,
M. M. Warburg & Co.,
Hamburg 1., Germany

Exhibit 84

Letterhead of

TITAN CO. A/S

FREDRIKSSTAD August 17th 1927.

GJ/EH

Evans McCarty Esq.
United Lead Company,
111, Broadway,
New York.

Dear Mr. McCarty,

Re Agreement.

At the end of July I received a letter from the I.G in which they enclosed the agreement A. signed by the I.G. with datum and the other agreements except B. signed without datum. The I.G. mentioned that the date was not put in because the agreements are to be made with the Titangesellschaft when this company is constituted. I returned the agreements to be signed by the Titan Company with signatures in the same manner. I sent them, however, first to Dr. Mathies with request to forward them if he found everything in order. According to information from Dr. Mathies the agreements have been forwarded.

The I.G. did not enclose the schedules for self-cost price and plan of the site, proposing that these matters should be definitely decided upon when Dr. Kühne was here in Fredriksstad. The matter is, however, again postponed until our arrival in Leverkusen, as time was very short here. It seems to me also better that Mr. Moses could have a look at the site beforehand.

Exhibit 84

In the letter from the I.G. of 26th of July the company writes me amongst others:

(Translation from German). "In order to exclude misunderstandings we beg to lay down in writing our understanding regarding agreement D, II section 4.

As already mentioned verbally several times during the negotiations, the case may arise, that our firm comes into the position to import into the American countries Titanium White for instance in "spraying enamels"—that is in mixtures, which falls under "Finished Article" because we can or will not manufacture there.

In this case we are of the opinion, which also you have expressed at these occasions, that our firm must buy the Titanium products from the German Titangesellschaft, but that as a client of this company it can export the finished article to the American countries, as long as the quantities of the Titanium products which are imported there in such manner, do not substantially restrain (wesentlich behindern) the Titanium business there. Otherwise after six months an agreement between the producing parties (Titanium Pigment Co. Inc. and the German Titangesellschaft) should be done (müssten wohl getroffen werden).

As soon as our firm will and is in the position to produce itself or through licensees the finished article in America, then the titanium products according to agreement must be taken from the Titanium Pigment Co. Inc. respectively its representatives.

We shall be thankful if you will confirm your principal accordance with this interpretation of our agreements."

I answered to this:

(translation from German).

Exhibit 84

"In our agreement with T.P.Co. Art. VI (c) B, it is foreseen, that an import of "Finished Article" can be made to a certain degree.

The limitation is that this import must not "substantially interfere" with the sales of the T.P.Co. and its eventual licensees. If the American company finds that such interference, however, is the case, then the Titangsellschaft must endeavour to prevent such import, but at the same time the T.P.Co. is obliged not to sue the importer under their patents in the first six months.

It has also to be a presumption for the action of the T.P.Co. that the Titanium product shall constitute an important part of the finished article. Whether the importance of this part (the titanium product) is to be estimated according to its weight or otherwise, is not expressed, and must presumably be considered from the point of view of its effect on the sales of the American company.

Your thought, that one should seek to make an agreement if the case arises, seems to me a natural solution of the situation in the interest of all parties concerned."

The I.G. has not answered this letter, but Dr. Kühne and Dr. Raspe declared my interpretation to be satisfactory. I don't think there is any reason to put this question of interpretation before the Titanium Pigment Co., but will like to have your private opinion if you disagree with my view.

I have noted with interest that the I.G. has mentioned this matter as I interprete this as a sign of their willingness conscientiously to keep the agreement in this respect, which is a matter of much importance to the Titanium Pigment Co.

Exhibit 84

Reading through the agreements on my return after my holidays I found that a slip had taken place, namely the following:

The I.G. has agreed to oblige all licensees of processes which imply an application of Titanium compounds to cover their requirements of these from the Titangesellschaft or its licensees respectively sublicensees according to agreement C. Article IX and to cover its own requirements of Titanium compounds in the territory of the Titangesellschaft exclusively from this company, but nothing is said about the case of I. G. manufacturing itself in our territory. Of course it has all the time been understood that the I.G. will be under the above obligation also in this case.

When I was in Hamburg 29/7 I called on Dr. Mathies and drew his attention to this slip, which I consider he beyond any body ought to have observed. He agreed to write to Dr. Brüggemann and ask for a letter confirming our view.

Dr. Mathies has written to me that he has received such a confirmation and Dr. Kühne, when he was here, agreed to have it added to the agreements when these were finally written.

Dr. Mathies charged me 300 Mark for this. In view of your critisism of his last bill I mentioned this to Mr. Warshow and suggested that he should take the matter up with Dr. Mathies when he passed Hamburg for the purpose of having him drop the bill. Mr. Warshow suggested before he left that he would say to Dr. Mathies that I had found the bill to be too high and as Mr. Warshow felt himself responsible for the recommendation of Dr. Mathies, he would ask him to refrain from the additional bill, which made not a good impression. I left the matter in Mr. Warshow's hand.

Exhibit 84

By the way in the letter from I.G. of 26th of July as above translated the I.G. has already acknowledged the obligation.

There are in the additional agreements with the I.G. which you will remember, several points which we have to place before the Titanium Pigment Co. I shall deal with this in another letter, which I beg, however, to send you when I have been in Leverkusen, as there are certain stipulations with regard to the exchange of patents which I think should be somewhat improved in the interest of all parties concerned.

With kind regards,

Yours very truly,

G. JEBSEN

P.S. August 18th 1927.

I have today received a letter from Dr. Mathies in which he defends his bill in view of the work done—especially all the night work with the reworking and the translations of the agreements and in consideration of the press of time. He mentions that in total the work represents about 14 days. He believes that his bill is throughout within regular practice. At last he says that he will, however, refrain from the additional bill, as it is an unpleasant thought to him that one of his clients should find his bill too high.

I have also today received a letter from Mr. Warshow from which I see that Mr. Mathies has sent him copy of the letter.

Exhibit 85

Letterhead of
TITAN CO. A/S

GJ/AK Paris, November 3rd 1928.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of October 23rd.

I beg to confirm my cable of yesterday as follows:

"REFERRING LETTER 130 IG'S AGREEMENT IN PRINCIPAL RECEIVED"

and your answer received to-day :

"REFERRING TO YOUR TELEGRAM 2nd DO YOU RECOMMEND IMMEDIATE "INCORPORATION NEW COMPANY,"

as well as my cable of today :

"AWAIT FURTHER NEWS BEFORE INCORPORATION".

I enclose translation of the following correspondence: Letter from the Titan Co A/S to I.G. Farbenindustrie of 10th of October, requesting their agreement to the transfer of the interests to the Titan Co Inc.;

Letter from the I.G. Farbenindustrie to Titan Co A/S of 25th of October, giving their consent.

I also enclose translation of a letter from me to Dr. Brüggemann of 10th of October, concerning the details in question.

Exhibit 85

I have not had the opportunity to talk this matter over with Dr. Brüggemann and would like to have done so before you incorporate the company.

I do not see any difficulties before us in this matter, but would like to have gone actually through each point with Dr. Brüggemann in order to ascertain that his point of view agrees with mine.

I had yesterday a message from Mr. Washburn, according to which the calcination will start the 5th or 6th of November and a marketable product may be had in the middle of the month.

I have had so much to do and have still before me, that I have had to postpone my visit to Leverkusen, but hope to be able to go there in the middle of next week.

I have kept in touch with Mr. Washburn and Dr. Raspe partly by letters and partly through the telephone, following the progress of the operations.

The day before yesterday they have made 130-140 tons of precipitate.

The material has reached the second Dorr tank and has by washing and calcination in the laboratory given a quality equal to St-Louis N° I and better.

I shall feel very happy the day we have got our first marketable pigment, provided we have it within the time expected so that we can start the introduction into the market.

During my stay in Leverkusen, we agreed that the price for Standard T to be foreseen for Germany, should be 5 Mk. above the price for White Zinc which is 65 Mk. per 100 Kos delivered franco. The definite fixation of the price was postponed until the product was actually available.

Dir. Holm of the I.G., who is in charge of the sale of titanium white as well as lithopone, insisted upon an in-

crease of the commission of 5%. He argued that it was necessary to give a commission of 5% to the representatives in the foreign countries and the I.G. will have nothing for their work.

He further considered it necessary to have an increase of the commission on goods sold through Christensen Schwartz & Co, as the I.G. will have to give this firm 4% (Christensen Schwartz has to give 2% to their sub agents).

The idea of giving an extra commission to I.G. for goods sold through Christensen Schwartz did not appeal to me. Accepted as principle it can be used as a basis for I.G. later to argue a cancellation of the arrangement.

With regard to the 5% to their foreign representatives, I think Mr. Holm is right.

I suggested that Titangesellschaft should pay to the I.G. for the first year a fixed sum in addition to the commission for the introduction work, the amount of this to be revised next year when we have more experience with regard to the business. We agreed on a sum of 60.000 Mk.

You may consider this rather high. I thought it wise however, to have the I.G.'s commercial department feel that their efforts should not be limited by a too small budget. The commercial department is interested not only to have a success as to the quantities of sales done, but also I presume, to have their budget showing balance or a profit and it would not be wise if they felt titanium white to be an extra burden involving a deficit for them.

All propaganda cost is paid by the Titangesellschaft.

In the agreements is, as you will remember, not foreseen that the I.G. shall stand delcredere.

I was asked if we wanted the I.G. to be responsible for payments, in which case there will be a question of remuneration, but I told Dir. Holm that the idea was that

Exhibit 85

the I.G. being interested in Titangesellschaft with 50%, will be sufficiently interested to see the payments coming in.

With reference to your interview with Dr. Kühne and Dr. Raspe they wanted to take over Portugal, Poland and talked also about Italy. I confirmed that we had agreed upon that they could take over Portugal at once and that it is foreseen that they could take over Poland. This is in accordance with your interview. I said however that I wanted not to give them Poland immediately. We will let the I.G.'s representative undertake the sales in Poland but I wanted the actual transfer of Poland to the Titangesellschaft as a part of their territory not done at the present. (We will ultimately have to give them Poland, but I should prefer to keep the matter pending until I see the attitude of the I.G. in various other questions, which I presume will turn up.)

Dir. Holm mentioned that they were very well represented in Italy through Italian firms and had a good basis for negotiations with Montecatini.

Purchase of White Zinc. I pointed out to them that it would be preferable to buy White Zinc from Pisart if this was possible against the Custom tariffs.

Dir. Holm who knows Pisart very well from negotiations regarding Lithopone, understood my point of view and said he was willing to do so in case Pisart could offer a better price than German White Zinc makers; at equal price he thought that they will have to give German makers preference.

Dir. Holm promised to keep me informed of the negociations with Pisart.

Hoping that what has been agreed upon above, falls in with your views, I am, with kind regards,

Yours very truly,

G. JEBSEN

Exhibit 86

Translated from German

MINUTES N° 3, 1930.

May 3, 1930.

MINUTES FROM CONFERENCES RE TITANIUM WHITE MATTERS AT LEVERKUSEN, MARCH 24TH AND 25TH 1930.

Present: Dir. Dr. Jebsen
" " Kühne
" " Brüggemann
" " Jähne
" " Raspe

1°—With regard to the offer made by Lickfett, to acquire the titanium ore mines near Egersund, belonging to the Christiania Minekompani A/S, no decision is to be taken for the time being. It is decided in the meantime to acknowledge receipt of Lickfett's letter, stating that at the price mentioned by him, the company is not interested in taking an option.

2°—Kühne and Jähne will examine with Hilpert the question as to whether about 10 workmen could be taken over by the Titangesellschaft in order to reduce the cost of repairs, and whether the 30% extra charge, recently applied, could be exceptionally dropped for the Titangesellschaft.

3°—Raspe is to prepare an estimate of the expenses in connection with tests, and submit it at the next conference.

4°—The sale of ground ilmenite under the mark "Kronos" and the name "Ilmenite Black" is agreed.

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5°—In order to release Schwenk from correspondence duties, a secretary is to be engaged for Raspe.

6°—Mr. Reinhardt, director of the "Vereinigung Deutscher Zinkweiss-Fabriken", is to be informed in reply to his last letter addressed to Titangesellschaft, that in future would be abstained from distribution of the pamphlets in question at exhibitions. We hoped that the same policy would be adopted with regard to the pamphlets issued by the zinc white and white lead manufacturers against titanium white.

7°—In our monthly calculations the specifications of repairs should be made, as far as possible, on similar lines to what is done by the I. G. in this connection.

8°—The project concerning the clarification of the titanium solution by means of filtration with preceding crystallisation of the iron sulfate (estimated cost RM. 110.000) was approved, the apparatus to be installed in "Querbau" II on the blanc fixe filtration platform.

9°—In order to increase the production of blanc fixe, it is to be tried to raise the capacity of the preevaporation by means of a previous concentration of the too thin original solution. At the same time the manufacturing of blanc fixe from barium carbonate and sulphuric acid and also from BaS and sulphuric acid, is to be thoroughly studied. Kühne's suggestion to produce Blanc Fixe from carbonate in a wooden precipitation tank and to let the mixture run immediately afterwards into the Dorrtank 4, seems to be the quickest and cheapest way to solve the question. Proposals in this connection are to be submitted as soon as possible.

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10°—Raspe is requested to submit at the next conference an exact plan for the production of a high percentage composite pigment with CaSO4 and a 100% TiO2.

11°—The transport costs of the raw materials have up to now been calculated on a wrong basis. They should in future be added after the addition of the percentages. A retroactive credit statement should be rendered.

12.—In order to reduce the patent expenses, foreign patents of small importance are to be dropped.

13.—In order to avoid fluctuations in the "Gestehungspreise," caused by the quarterly amendments, Kühne and Brüggemann propose that half-yearly or annual average "Gestehungspreise" be applied in the future.

With regard to the BaS price, Kühne will examine more thoroughly the estimate and the calculation of the sales prices and then make a proposal.

14.—Raspe submitted his calculation of the "Gestehungspreise" for TiC14. Dr. Jebsen observed that the price stated of RM. 1.50 per Kg. of TiO2 was too high, considering the production costs of the Titanfabrik, agreed, however, to the proposed "Gestehungspreis" of RM. 2.00 per Kg. TiC14 being applied for the settlement until further notice. All the gentlemen present agreed to this.

15.—It is agreed that the interest on the loans contracted by Titangesellschaft be booked over profit and loss account. The interest on accounts for services rendered (merchandise, repairs, etc.) will be charged to production.

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16.—The company tax is also to be booked over profit and loss account (amount for 1929 RM. 10.000 of the RM. 100.000 paid in 1929). According to conference with Dr. Brüggemann on March 27, 1930, the notary fees in connection with capital increases, are to be booked over the profit and loss account, similarly to the company tax.

17.—It is agreed that the special expenses incurred in connection with the starting of the Titanfabrik and amounting to RM. 21.000 be debited production.

18.—The share in the general expenses on the stocks of goods ready for sale, stored at Leverkusen or elsewhere, is to be capitalised.

19.—In view of a somewhat different method of calculating the general expenses of the I. G. Farbenindustrie; an addition to the "Einstandspreis" established under the new calculation methods of the I. G., of 10% for general expenses, instead of 15% as heretofore, is to be made, effective as from Jan. 1, 1930. This arrangement is to be considered as temporary and neither the Titangesellschaft m.b.H. nor the I. G. Farbenindustrie are to be definitely bound by the same.

Dr. Brüggemann believes, on the basis of previous calculations, that a settlement on the above mentioned basis will be equal to that hitherto applied, suggests however, that some experience be gathered before a final decision is taken.

20.—Dr. Jebsen stated that he had received an inquiry from Fredriksstad as to whether they should continue to work Italy from there and that considering the

information received from Mr. Holm and Arca, according to which our sales prospects in Italy were unfavorable, he had advised Fredriksstad that they could continue their work. He thought that it would be better if the Titan Co. A/S would continue to handle the sales in Italy, since the work on this market has in the first place a tactical interest, in view of the activities of Montecatini outside Italy.

Dr. Kühne asked if the profits of the sale could not be left to Titangesellschaft. Dr. Jebsen expressed the opinion that, according to the investigations made, large quantities could not be expected and the amounts would not be of importance. Dr. Jebsen asked if the Titangesellschaft would also support eventual losses.

Titan Co. A/S was inclined to let Montecatini take over Italy if the latter agreed to keep away from the other countries

Dr. Kühne asked if we would also at the same time protect Germany and Dr. Jebsen pointed out that the interest of the Titan Co. in the Titangesellschaft were in favour of this. . . . He had, already at an earlier date, expressed the assumption, in connection with a transfer to the Titangesellschaft, that, in case of an agreement with Montecatini, the markets of the Titan Co. should also be protected, and for this no compensation could be given the Titangesellschaft for giving up the Italian market.

(sign.) RASPE.

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Letterhead of

TITAN CO. A/S

SJH/AK

Paris, June 18th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Enclosed please find translations from German of the Minutes numbered 1, 2 and 3, 1930 from the Board Meetings held in Leverkusen on January 4, 6 & 7, February 5 to Febr. 8 and May 3, 1930, as well as translation of the Minutes from t annual Partners Meeting held in Leverkusen on April 2nd this year.

These papers were examined by you during your stay in Paris.

Yours very truly,

S. J. HENDRIKKSEN

Exhibit 87.

Translated from German.

Minutes No 1—1930.

Minutes from conference in Leverkusen re titanium matters, January 4, 6 and 7, 1930.

Present: Dir. Jebsen
" Kühne
" Holm
" Brüggemann
Beckmann
Dr. Raspe

1.) A change in the prices for Standard T, Standard A and Paste is not found right at the present state of the market. Rebates can in certain cases be allowed on the list prices, but the net proceeds from the sale should not be under RM. 66.

2.) With regard to sales expenses, another conference is to be held in the next few weeks.

3.) The modified final proposal for the publicity expenses for 1930 will be sent Dr. Jebsen from Frankfurt soonest possible.

4.) Dr. Jebsen mentions that he had discussed with the National Lead Co. the proposal regarding a 10% increase on the deliveries to Titan Co., subject to I.G. dropping the 10% increase on the raw material prices. This question, however, is not to be decided at present. It is desirable to await further developments.

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5.) The I.G.'s proposal—which has already been discussed previously—to apply a rate of 15% as general expenses in connection with deliveries to T.G.m.b.H., was accepted by Dr. Jebsen on behalf of Titan Co. Inc. it being understood that this should be considered as a maximum rate. This reservation was accepted by the gentlemen of the I.G.

6.) With regard to South America, Dr. Jebsen mentioned that the quesetion put forward by the gentlemen of the I.G. could not be decided at the present, in view of the option of the Titanium Pigment Co.

The Titan Co. is represented in some South American countries by branches of the I.G. and Dr. Jebsen declares himself ready, subject to the approval of his Board of Directors, to transfer to the T.G.m.b.H. the profit realised by sales made through these representatives.

7.) Further, Dr. Jebsen declares that the Titan Co. Inc. is willing to let the T.G.m.b.H. take over Italy, according to the wish of the I. G. Dir. Holm wishes to examine once more the sales possibilities in Italy before a decision is taken in this connection.

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8.) Dr. Raspe is requested to prepare a detailed annual report regarding the factory operations of the Titan G.m.b.H.

9.) Dr. Jebsen proposes that tests be made with regard to the possibility of using Standard T as a paint for indoor use.

10.) Dr. Jebsen proposes that numbered minutes be made out, placed in a minute-book and signed each time. Dr. Raspe is requested to take care of this.

11.) Of the M. 100.000, taxes on the capital increase, M. 10.000.—is to be written off for the year 1929.

12.) Dr. Jebsen requests that a record of all titanium patents of the Titan G.m.b.H. be prepared for the management. The patents which are being filed for inventions of the T.G.m.b.H.'s organisation, are to be filed in the name of his company. It is to be examined under which names such patents are to be filed which are the result of cooperation with the Gentlemen of the I.G. Dr. Kühne will examine this question specially.

13.) The amount of the royalty is to be fixed according to the exact percentage of contents.

14.) The monthly deliveries to the Titan Co. Inc. will not, as has been the case hitherto, be debited immediately, but debited, value 15th of the month.

(sign.) Dr. Raspe
(sign.) Dr. Brüggemann
(sign.) Dr Jebsen
(sign.) Dr. Kühne.

Exhibit 88

Letterhead of

TITAN CO A/S

GJ/HS.

Paris, July 23rd. 1931.
Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I returned last night from Leverkusen.—Matters have improved considerably there.

The production of Standard "T" was started in the latter part of June. The first product came out of the furnace about 10 days ago, and I was informed, that they yesterday reached a daily production of 40 tons Standard "T", and that the product is the same as in November last, perhaps slightly better.— The start of this manufacture has taken place without any special or unforeseen difficulties, and the operations are running normally. — The spirit of the organisation is better with less or no nervousness.

Dr. Raspe and Dr. Weise have made a lot of experiments in the laboratory this winter and spring, studying the Blumenfeld methods, and are in hope to develop a process on the same lines in principle, without infringing the Blumenfeld patents, obtaining a product with a tinting strength of 14/1500. In the laboratory they have even obtained a higher tinting strength; it is though still an open

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question how it will work on an industrial scale, which can only be answered by experience.

Dr. Mayer of Aussig has sent to Titangesellschaft a sample of a product he has made in the laboratory with a tinting strength between 14/1500. He says to have made this by a new process with a titanium tetra chloride, and he says that he should be able to make it at a price between 5/600 Marks per metric ton.— From previous experience the statements are to be received with a certain precaution. Dr. Kühne doubts the figures, and believes that he will find the handling of ferrous chloride inconvenient.— You will also know that this kind of processes are likely to involve a lot of repairs. Dr. Kühne agreed with me, that the process has the drawback that it requires a very cheap source of supply of chlorine.

For the sake of information I shall appreciate if Mr. Hallett will send me the datas he developed by his investigation of the Sté Francaise du Titane's process.

Last Friday I had a meeting with Director Holm and Director Körffer.— The sales of the I.G. for the Titangesellschaft show quite an improvement in the last two months, and they are now in tonnage equal to last year.— The sale of Standard "A" has gone back, and has been replaced by a larger sale of Standard "T" and TiO_2. Contrary to England—where the sale of Extra "T" has gone back—the quantity in Germany is the same as last year.— I could though not agree with Director Holm, who thought we could be satisfied with the sales this year, and I told him so.

Dr. Schütz of Sachtleben has informed Dr. Kühne and Director Holm of his conversations with Mr. Cornish and Mr. Moses regarding Titanox versus Lithopone, and the

development in the United States had evidently impressed them.—

Dr. Schütz had suggested, that Sachtleben should take an interest in the Titangesellschaft, and Dr. Kühne told me, that they in principle were willing to make such an arrangement. The part to be transferred to Sachtleben should be taken from both of us (I.G. and Titan Co. Inc.). I doubted that the National Lead Company would agree to have less than 50%, and I could not see how a satisfactory arrangement could be reached. I was though willing to explore the situation. Dr. Kühne also thought it difficult to find a solution.

By arrangement of Dr. Kühne we had lunch together with Dr. Schütz yesterday at Leverkusen. Most of the time was spent in talking about the difficult financial and political situation at present.—

Dr. Schütz considered it not to be the moment for plans of this kind, but thought no harm done, if we talked over the matter. He had no definite proposals to make, but suggested for consideration that Sachtleben should become a partner in Titangesellschaft. Before this could be decided upon he thought it necessary that we agreed upon which place titanium should take in the market, as he considered that otherwise Sachtleben having an interest in Titangesellschaft, would only develop in an impossible situation. By making an arrangement on these lines, Sachtleben would have to let titanium have its way so far as agreed upon, and although this would be painful, they would have the consolation to be partly compensated by their interest in titanium. The situation would be clear, and not the inconvenient one of the I.G., which now was led by the obligations towards us to develop titanium against their own interest in Lithopone.

I expressed my appreciation of the frank and open way in which he stated his views, and that I would appreciate if a way could be found, by which we could make Sachtleben interested to mutual benefit. This seemed to me though difficult, but I was glad to explore the matter with him.

The situation with the I.G. at present is not as he sees it, because they do not have the whole lithopone market, and of every ton of lithopone which was replaced by titanium, the I.G. had only a part, and the part which they had in titanium I thought would compensate them.

If, however, Sachtleben also became interested, the I.G.'s part in lithopone will remain the same, whereas its part in titanium will be reduced.

I asked him what he thought the position of Pisart would be. Will we not risk that Pisart also will demand an interest in the titanium business? And if not, that he will start to send lithopone into Germany and take up a fight lowering the lithopone prices anyhow?

Dr. Schütz thought it rather likely that Pisart would do this in any case (which means that the Lithopone Convention may have a short life). I asked him what place he thought titanium white should be given in the market, but he would not express any opinion, and put it up to us to express our views.— He considered Mr. Cornish's point of view too optimistic. I agreed that Mr. Cornish was very optimistic in this matter, but thought that he had good reasons for it.

I did not consider the step of the American lithopone makers in reducing their prices very wise.

The New Jersey Zinc Co. had stated to Dr. Schütz, that they have still a good profit with their present price of

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lithopone. I did not doubt this, but as Titanox gives a better profit, a price fight will not lead to the result intended by the lithopone makers. It would have been better to let titanium have its way, until it had got its position in the market—a position it will get in any case. This does not mean, that lithopone will be wiped out. I thought that there will always be a certain place for lithopone, which will be kept by lithopone makers who have at their disposal cheap sources for zinc.

Pisart's position was touched upon, and it was considered, that his sources of zinc were not favourable. He is buying some from the Duisburg Kupfer Hütte (I.G. plant), and the price is between £16 and £17 (confidential).

Dr. Schütz was in a very low spirit with regard to the general position of Germany, and hoped for a satisfactory solution of the present crisis. He thought that many of the business people had had so many difficulties during and since the war, that they were coming into a state of apathy. Dr. Kühne was somewhat more optimistic, although also he considered the situation very grave, and in case of no arrangement with regard to the German debts, riots and revolution are to be expected.

Dr. Schütz thought that France's purpose was through such a revolution to have Germany divided up in three parts: a northern, a southern and a western country, and that France immediately will offer financial aid to a political group in Munic and Cologne, provided a separation from the northern and eastern Germany takes place.

I told Dr. Schütz that I will meet Mr. Beschorman in London and take the opportunity to discuss his suggestions when he came.

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Dr. Schütz took the opportunity to mention, that an agreement had been reached with the National Lead Company as to the conditions of a cooperation in the matters of Baroid and various Barium products, but although repeatedly requested, he had not been able to obtain from Mr. Harth copies of patents or patent applications or various other information confirming or substantiating the information Mr. Harth had given verbally, and thought that he was entitled to this, before he entered into any agreement.

I told him I would mention this to Mr. Beschorman, so that the matter could be cleared up.

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In the meeting with Dr. Kühne and Director Holm I encouraged them to go ahead with the development of sales in South-America, without a definite promise of a transfer of Titan Co. Inc.'s rights in these markets.

The question of a reduction in the prices in Germany I did not take up, but in connection with the reference to Dr. Schütz's talks in the United States, the possibilities of competition between titanium and lithopone were openly discussed. Director Holm doubted much, that titanium ever could be produced at sufficiently low prices to compete with Lithopone, when the price of this was reduced to its very lowest. Dr. Kühne was inclined to agree with him, mentioning at the same time, that the production price of titanium may come down to ca. 30-35% above the production cost of lithopone. I thought it not advisable at this moment to enter into a discussion about the price ratio by which titanium would seriously compete with lithopone.

There was during this conversation no indication of an intention of the Germans not to let titanium have its free run. What develops from Frankfurt in this matter remains to be seen. I have the impression, that the technical organisation in Leverkusen are doing their best to get the production price down. Dr. Raspe is now trying to run the factory at its highest capacity for the sake of experience and also in order to be able to turn over to the production of TiO_2 pigment again soonest possible.

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The stock in Leverkusen of pigments of 1st class quality was in the beginning of July—with the exception of the TiO_2 pigment, the production campaign of which had just been finished—very low, in fact lower than it ought to be. With the new production of Standard "T", however, now started, we will soon work up a considerable stock.

Hoping that your recovery is developing satisfactorily, I am, with kindest regards to Mrs. McCarty and yourself,

Yours very truly

G. JEBSEN

P.S. I had lunch with Mr. Wilson today, and had an interesting talk with him, which I much appreciated.

Mr. Warshow was in Leverkusen during my stay and went together with Mr. Juell and Mr. Ley through the office organisation there to the purpose of a reduction in the personnel. It was found, that by reducing the reports, a man and a stenographer could be spared, and that experience during the first half year to come may allow a further reduction. Mr. Warshow's visit to this purpose was quite agreeable to Dr. Kühne and Dr. Brüggemann.

Mr. Warshow has also made himself more acquainted with the organisation here in Paris, which I much appreciated.

After his visit to London, he will go to Norway to the same purpose, and I shall be glad to have his opinion and possible suggestions to economies there.

I leave tomorrow night for the coast to visit my family for a week before going to London to meet Mr. Beschorman and Mr. Sidford.

Copy sent
Mr. Cornish.

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P.S. Mr. Thompson told me over the telephone to-day, that sales in titanium during the first three weeks of July had been quite good, whereas the general trade was slacking.

In London it was felt by many, that the Germans had exaggerated their condition and made the crisis worse in order to obtain the best possible arrangements.

In Cologne it was very calm on the surface. There is probably some truth in the London opinion, but no doubt the German Government has now taken very strict measures especially to force the Germans to give information as to what capital they have in foreign countries. Anybody knowing about somebody else having money put away in foreign banks, or having capital about which they have not given information to the Government, can be put into prison, if they do not inform the authorities. It was felt that this develops a very bad moral leading to attempt to blackmailing and denounciation.

On the other hand the German municipalities in general have been spending a lot of money for social improvements of no or little remunerative character. Already two years ago Director Holm and Dr. Kühne criticised this very heavily. It was the result of the internal political situation, forcing the more conservative to give concessions to the socialists. Whether though the Government will be able to keep the population in hand with the masses of unemployed is difficult to say, and I have asked Mr. Thompson to provide for a three months stock in England in order to be prepared if riots should come. Fortunately the districts around Cologne and Leverkusen are amongst the more quiet ones, but even so there may be transportation difficulties.

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Exhibit 89

Translated from German.

CONFERENCE

September 24th. 1928 at Leverkusen.

Present: Dr. Jebsen
Dr. Brüggemann
Dr. Raspe.

1°. Regarding the supplementary agreement foreseen in paragraph 4. of the addition to the contracts C. and D. of 3/20 October 1927, Dr. Jebsen promises to communicate once more with the American Gentlemen, as to a definite settlement of this question in the form of a "Gentleman agreement". As far as Dr. Jebsen has understood the American gentlemen, the Titanium Pigment Co.'s interests, as far as can be seen, are not opposed to the principle idea. However, the American patent law and the practise of the American patent authorities can compel the Titanium Pigment Co. not to hold this engagement, and it is impossible to foresee, which may be the further developments of such an engagement. However, the principle idea is looked upon favourably.

2°. The date from which the rent should be calculated, according to paragraph 1. of contract E. dated 3/10. October 1927, is fixed to be July 1st. 1928.

3°. The date at which the operations were started—to be declared to the control and tax authorities—is fixed to be September 15th. 1928.

4°. The transfer of a certain amount of interests of the Titan Co. A/S. Fredriksstad, to a new American company, as mentioned in Dr. Jebsen's letter of September 15th. 1928, is motivated by:

1°. The necessity of a regulation of Dr. Jebsen's personal participation in the titanium-business contemplated by the Americans.

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II°. The desire to avoid Norwegian taxes, which would result from the sale of the Leverkusen production through the Norwegian company, according to contract J. of 3/20. October 1927.

According to Dr. Jebsen's letter of September 13th.; it is intended to form the new American Company in such a way that the National Lead Co. participates with minimum 86% and Dr. Jebsen—up to 14%. Thus, the proportion, as regards the National Lead Co., would be the same as for our previous contract-opponent, the Titan Co. A/S., Fredriksstad. Therefore there are no principle objections to undertake this formal change in the person of the contract-opponent. For the purpose of a homogeneous conception ("Erfassung") of the titanium-agreement existing between the Americans and ourselves, by the new company, it is also intended to transfer to the new company the shares of the Titangesellschaft m.b.H., which up to now were the property of the National Lead Co., and also to transfer to the said company the new shares of the American group which will be created in connection with the intended increase of capital (of Titangesellschaft m.b.H.).

Dr. Jebsen will write us in the name of the Titan Co. A/S. a letter stating the proportion in which the National Lead will participate in the new company, and asking if we agree to the transfer of the rights to the new company, it being understood that the Titan Co. A/S. maintains their "Haftung".*) We have promised to confirm our agreement ("Einverstandnis") to the Titan Co. on receipt of this letter.

(Sign. BRÜGGEMANN).

*) The meaning is: maintain their responsibility for the fulfillment of the obligations.

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RESOLVED, that the action of Dr. Gustav Jebsen, at a proprietors' meeting of Titangesellschaft m.b.H., held October 22, 1929, in consenting to and effecting on behalf of this corporation an increase in the capital of said Titangesellschaft m.b.H. from one million five hundred thousand Reichsmark (R.M. 1,500,000) to three million Reichsmark (R.M. 3,000,000), and assuming in the name and on behalf of this corporation one-half of said increased capital or seven hundred and fifty thousand Reichsmark (R.M. 750,000), be and it hereby is in all respects approved, ratified, and confirmed, and that the officers of the corporation be and they hereby are authorized and directed to execute and deliver such instrument as may be proper to confirm said action.

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At the request of the Chairman Dr. Jebsen thereupon reported upon the general conduct of the business and affairs of the corporation in countries foreign to the United States, under his charge as General Manager, explaining that full details of this business were on file at the home office in the form of correspondence with Vice President McCarty and reports, financial statements and minutes of meetings which had from time to time been sent him; that with respect to specific authority given him by the Board he wished to report that pursuant to the Board resolution of December 12, 1929, he had confirmed by letter to Titangesellschaft m.b.H. the amendment of the contract with that company of October 3/20, 1927, so as to include Poland and Portugal in the "territory of Titangesellschaft" thereunder, as also the Free City of Danzig, mention of which had inadvertently been omitted from the resolution referred to, but had not yet thought it opportune to effect amendment of said contract so as to include Italy in such territory; that with respect to the various patents of the Company and applications for patent made on its behalf, he had thought it expedient in several instances, for reasons of economy or on other practical grounds, to allow certain patents to lapse through non-payment of maintenance charges and to withdraw certain pending applications, all as detailed in a typewritten memorandum which he had had prepared and now submitted to the meeting, and that he would like to have the Board's approval of his actions in that respect and its authority for him to deal with the patent situation in like manner in the future.

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Upon separate motions duly made and seconded the following resolutions were thereupon unanimously adopted.

RESOLVED, that the various acts and proceedings of Dr. Jebsen as General Manager of the business and affairs of this corporation in all countries foreign to the United States, as orally reported by him at this meeting and as embodied in his various reports, statements, letters and minutes of meetings on file at this office, in respect not only of his management of the direct business of this corporation but also as its representative at meetings of companies in which this corporation owns a proprietary or stock interest, be and they hereby are in all respects approved, ratified and confirmed.

RESOLVED, that authority be and it hereby is granted Dr. Gustav Jebsen, Vice President of this corporation, to take such action with respect to the maintenance or non-maintenance of existing patents of the corporation and with respect to the prosecution or withdrawal of patent applications filed on its behalf as he may from time to time deem advisable, reporting from time to time to this Board appropriate details of action taken by him under this authority.

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Letterhead of

TITAN CO. A/S

GJ/AK

Paris, March 30th 1928.
c/o Sté Industrielle du Titane
26 Rue de la Pépinière

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

I arrived here yesterday after a very good passage and write already to-day re an incidental meeting on board, which may prove of interest.

Going through the list of passengers the second day, I found that on board was a Major Barley.

In 1924 and 25 a Major Barley of the Nobel Industries had tried to meet me to talk titanium. In the beginning of 1925 he wrote me that he would be in Oslo and we met there. I told him it was too early to think of the erection of a factory for titanium-white in England, as the market had to be more developed. He asked me to have them in mind when matters were ripe, which I promised him.

I had only a slight remembrance of his look, but found out who it was and renewed the acquaintance Saturday afternoon.

He was well informed about the arrangements of last year and said he knew that National Lead Co were very nice people. I told him I was studying the English situation

and thought we could use the opportunity to talk the matter over. He said they were now in I.C.I. occupied with so many big problems that he did not know if the board would be inclined to take up any more now. He remembered our first meeting with great pleasure and had always felt that he would like to see an arrangement done with me, and so on . . . .

I told we wanted cheap sulfuric acid and I was afraid it could not be made so cheap in England as on the continent. He said that they were erecting a factory in Billingham near Newcastle for sulphate of ammonia and there would make sulfuric acid from gypsum found on the place and were confident they could make it cheaper than anybody on the continent.

He thought it very lucky we had met and told me Sir Harry McGowan was on board. He asked me about our patent situation and "what about Weizmann." I told him briefly my view upon this—practically as I summarised it for you re the Titan Co's patents before I left,—and he told me to my surprise that he remembered I had said the same to him in 1925.

He thought the white lead manufacturers ought to be taken into a combination.

I told him that you and Cookson were personal friends and the best relations existed between you.

I did not think there would be any principal objections from your side, but I could not see what they could bring in of value. He meant they did not need to have a large interest.

Mr. Barley said he was very interested—he did however not know if there could be any principal political objections against a cooperation.

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He thought we should make a cut and dry proposition to which the Board could take a standpoint.

Later I met Mr. Mittchell and Mr. Nicholson, members of the Board of I.C.I., and some other friends or acquaintances, amongst others a Mr. White of Union Carbon and Carbide Co, a young man who had a charming young wife visiting Europe for the first time.

Mr. Mittchell I knew by name through Norsk Sprangstof Industri—they are competitors in South America—and Mr. Mitchell told me they were not so bad as their reputation.

Monday I had a little talk with Major Barley and told him I would like to hear more of Billingham as I had got interested in what he said the other day. He could not expect a cut and dry proposition from us. I was talking only on my own behalf. An arrangement would have to be worked out together between the two parties. I did not think that National Lead Co would make a proposition. He said he understood that. He was afraid the I.C.I. at present could not think of cooperating with us as they had so many important things on their program and they would have no time and men available for it. They could not take the responsibility for the management at present. The Billingham factory would not be in operation before 18 months.

They would though always be willing to sell us sulfuric acid.

I had told him some of the lines of our agreement with I.G. and said we had a call on part of the production in Leverkusen and it may be of interest to organize the Company now and start manufacture later. We have good agents in England who could continue to sell. By making a company we would show our intentions.

He saw our interest in that respect he said.

I asked about the political objections he had mentioned there may be, but he thought there were none.

He asked me if the White Lead people would have to be in with them and National Lead have the fifty percent alone. This was his own idea as I had not suggested anything except told him the first time that in Germany we were fifty-fifty. I said though I considered this would have to be the case.

I said to him that I.G. at the time they were reorganizing their activities, had found titanium to be of such interest that they came to me already two years ago and had given a considerable attention to make an agreement with us. He thought the agreement with I.G. spoke a lot in favour of our patents.

I told him that our agreement with I.G. arranged for future cooperation in patents and the same would have to be the case with I.C.I. "Of course",—he said.

The talk was though short as he had an appointment. He wanted to have another talk before I left.

After my impression of our first talk, I was rather surprised that he did not try to have me meet Sir Harry McGowan, but I did not express any desire in that direction.

Sir Harry McGowan was on board chiefly together with Sir James Dunn and some other of the titled persons. Sir James I have met several times before, he invited me to see him in London, but I am not particularly keen on that. He has not a very good reputation as a businessman.

The next and last day I played a game of tennis with Major Barley and some others and had a little talk with him afterwards. He asked me what I thought should be done further.

Exhibit 92

I meant the matter had so far no hurry, he could study it on his side and I would study it on my side.

I precised that I had been talking only on my own behalf and did not know what you thought, except that it was your intention to put up a factory in England when convenient.

I would come to London in May and if convenient we could perhaps meet there. He seemed relieved and said that was very good.

He felt that if the matter should be put before the board now, they would not take it up because of fault of man and time.

In the evening I said good-bye to Mr. Mitchell who asked me to see them in London,—they were not a bad lot,—he thought the English stood much nearer to the Scandinavians than to the teutons—(Mitchell's expression)—they would take care of me, and so on.

Barley joined in and Sir Harry McGowan. When I told Sir Harry that I had heard a lot about him from mutual aquaintances, he said he was not so bad as his reputation, which seems to be a standing joke in that Company. Mitchell told that Barley had been talking a lot of titanium and me and commercial solvent and so on. I made the talk rather short and when I left them, invitations to see them in London were strongly renewed.

I do not know whether Sir Harry is a type you would like. However, I.C.I. is as you know a very important Company.

Mentioning to Sir Harry National Lead Co's interest in titanium in Europe and my representation of you, he seemed to know National Lead Co but did not make any comment.

You mentioned that Sir Alfred Mond had recommended Weizman to Mr. Cookson. I wonder how much connection there is there.

Exhibit 92

It is difficult to tell you in a letter many small incidents of indications.

I cannot free myself entirely from the impression that they were playing a little poker with me, with the idea of having me to commit myself by showing much eagerness—but I may be wrong.

I asked Major Barley what production price Billingham would have for sulfuric acid—he was very reluctant to give any figure, but mentioned at last 25 shillings for 92% acid but said this was a figure I could not refer to later. I appreciated that but told him they would have to give us figures later.

I asked him if they had operated their process on an industrial scale; he said no, but they had no doubt that it would work out all right.

I do not know exactly Major Barley's position in the Company. He is probably investigating and preparing various projects for the board, but without any influence beyond that.

I hope this letter will reach you before Mr. Robinson leaves New-York, as it may be of interest to you in connection with your talks with him.

My travelling plans have been a little changed as the I.G. have asked me to come to Leverkusen on Monday. Thompson has written me that he will be here the 3rd and I have proposed to meet him here the 5th. He will be away from London until the sixth of May and I thought to go to London then.

My intention is then also to call on Mr. Robinson. Between the 15th and 30th of April I will try to meet Mr. Pisart.

Exhibit 92

I mentioned Avonmouth the first day to Mr. Barley as a possible source of sulfuric acid. He said the situation would be different in 1930 when the advantageous ore contracts had run out.

Later I expressed a surprise that they had not connected with Avonmouth when they needed so much acid and there was a new source which probably needed an outlet. He did not react on that remark.

Billingham is near Newcastle and steamers up to 6000 tons can go in there.

You will yourself see the advantages and disadvantages of Billingham contra Avonmouth. I may though mention that deposits of Barytes are chiefly in North Wales, which according to Barley, are of quite good quality. Without having seen statistics, my impression is though that most Barytes for chemical purposes are imported from Germany (Sachtlebens mine at Meggen).

With regard to the lines on which a cooperation with I.C.I. eventually should be made, I have not indicated anything beyond what Barley may have concluded from my indications of the I.G. agreement.

As I mentioned to you, it seems to me difficult at all to make an arrangement which in view of our I.G. agreement will not mean a considerable sacrifice.

Considering the matter I came to the following which I permit myself to suggest, namely—an agreement with the I.C.I. on the same basis as with I.G. with the difference that instead of having a call on 50% of the production at self cost—we have 50% of the net profit of the company to be formed and fifty percent goes to the money invested of which we take the half—resulting in ¾ of the total profit to us.

Exhibit 92

This will probably look to I.C.I. as a very stiff proposition and it may have to be arranged with two series of shares—giving the invested cash money preference shares.

In that case it is still stiff but not without precedence.

We may of course also ask a part of the preference shares and a smaller part, for instance 1/3, of the common stock in exchange for patents, experience market and a right for the English company to a part of our call on the Leverkusen production.

You may think now that my mind is running pretty fast, but I cannot omit to think that sulfuric acid at 25 shillings, the situation of Billingham near Newcastle and cooperation with I.C.I. seems interesting, provided the people are all right.

You probably have or can have good information as to this last question.

I had a little talk the first day with Barley as to the I.C.I.'s plans of operation and he said they were very confident in the future. They were now trying to arrange the chemical industries of the Empire to avoid competition and rationalize, and they felt that although it may take time, they would come out all right.

Their field of operation would most likely be the Empire. It would be three large divisions: Europe, The Empire and U.S.A.

One day he asked me about ilmenite, the Indian, Brazilian, Norwegian and Canadian deposits.

I told him that as far as I know the Indian deposits are small, the Brazilian in which we have a hand are neither very large. Both may prove rather expensive to operate, the Canadian were not easily accessible, whereas our Norwegian were near the sea on the south west coast of

Exhibit 92

Norway. He asked if the quality was good in Norway. When I said yes, he commented: well they are very convenient placed for Billingham.

He asked what we would do in Canada. I told him I had nothing to do with Canada. The market was small but my impression was that it was in your mind to put up a local factory there. He mentioned they had a sulfuric acid factory there: I do not remember whether it was in Quebec or Montreal.

I did not see much of Mr. Klein.

We had one talk together, but he was very careful not to say much of his work.

He considered Titanium-White a good pigment and meant he had shown it by taking up his experimental work.

He had managed not to infringe our patents. He did not say when he would be manufacturing.

I told him I had heard that Cookson was putting a high percentage TiO_2 on the market. He seemed very surprised, denied it and added—unless something new has turned up since I left in January.

He asked me if I knew anything about Monk and Irwin's Baryum-Titanate which they will put on the market. I said no and thought he would make Baryum-Titanate. He agreed, but only as an intermediary product. He said we will both have to make the pigment much cheaper—to which I agreed. It was the industrial conditions in Norway which had prevented us so far. He knew that, he said.

Everywhere in U.S.A. he had heard complaints that your prices in U.S.A. were too high. If only prices would come down, they would use more.

He did not speak highly of Blumenfeld's patents which he thought were our process Blumenfeld had tried to trim.

Exhibit 92

This has been a longer letter than intended. I hope though it has not bored you and I look much forward to your early comments, especially as to my talks with I.C.I. I should much appreciate to hear from you whether you want me to continue with I.C.I. and if so, to what extent and on which lines.

Please extend my very best regard to all your colleagues and express my appreciation of all the kindness shown to me.

I hope Mrs. Cornish is recovering from her serious illness and beg you especially to convey my sympathy and best regards to Mr. and Mrs. Cornish.

With the kindest regards to Mrs. McCarty and yourself and Mr. and Mrs. Spalding and many thanks for all your hospitality which I enjoyed very much,

Yours sincerely

G. JEBSEN

Exhibit 93

April 11, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Your telegram of the 31st ultimo from Paris was received in due course as was also your telegram of the 7th instant from Leverkusen. The latter, however, was not delivered until after office hours so that we did not receive it until Monday morning.

I immediately telegraphed to St. Louis regarding the drawing for the conveyor, and on receipt of their reply cabled to Leverkusen that the drawing had been despatched on March 22nd. It should be in their hands by this time.

I note the information in your telegram that it is expected that the factory at Leverkusen will be completed by the 15th of August, and that our German friends desire that Mr. Washburn arrive at Leverkusen by the 15th of July. At the moment I can see no reason why this cannot be arranged, but will advise you definitely a little later on.

I am also in receipt of your letter of March 30th from Paris which is both interesting and entertaining. I met Sir Harry McGowan in New York a few years ago at a luncheon given by Mr. Felix du Pont, but do not know him at all well.

You are no doubt correct in your impression that Sir Harry and his friends were trying to play a little poker with you and learn as much as they could. I am confident, however, that you were quite able to take care of yourself,

Exhibit 93

I have felt for some time, and I think on one occasion mentioned to you that we would probably have an opportunity to make some connection with the Imperial Chemical Industries if we desired to do so. I am not sure, however, that it would be a better connection for us than Mr. Robinson and his friends. It is a situation in which I think we can keep our own counsel and await developments.

When I last saw Mr. Robinson he told me that he would be in New York on or about the 7th of April, but I have heard nothing from him since Christmas, and do not know whether or not his plans have been changed.

Mr. Hagar has just returned from a two weeks trip in Canada. There appears to be no indication as yet that McArthur Irwin have actually done anything toward builgins a factory in Canada. Apparently they have shipped some ore to England and possibly to your friends from whom you formerly bought blanc fixe, and the development work is being done over there. Mr. Monk one of McArthur Irwin's men reported to one of our friends in Montreal that he expected to have sample shipments of satisfactory quality from England in the very near future.

I think that the time has arrived for us to actively enter the Canadian market, and we are making arrangements to do so.

We hear reports that the Commercial Pigments Company's factory in Baltimore is now in production, but we have as yet had no samples of their product.

A pure titanium oxide of fair quality said to be manufactured by P. Schueller & Son of Hannover, Germany, is being offered here at 16¢ per pound, and one of our friends has placed an order for a five ton lot.

Exhibit 93

I will be very much interested in learning the results of your conference with Mr. Thompson.

You will be pleased to learn that Mrs. Cornish is improving, and that Mr. Cornish hopes to bring her home at the end of this week.

With kindest regards for Mrs. Jebsen and yourself, I am,

Yours sincerely,

Vice President

Exhibit 94

Letterhead of

TITAN CO. A/S

No. 272

GJ/AK

Paris, October 3rd 1929.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Re Mr. Robinson and Avonmouth.

Last week—the same day as you talked with him over the telephone—I had, as you know, lunch with Mr. Robinson and his son, and told him my impression of Mr. Tilden Smith's plant.

Mr. Robinson told me that he would not go ahead titanium in competition with you.

I told him that last time I saw him, I had been frightened by the high price for Sulphuric Acid which he had mentioned. I thought his manufacturing situation would allow him to make any price for Sulphuric Acid, but understood he was under an arrangement with the other English Sulphuric Acid manufacturers regarding his sales-price. I also had received information to the effect that freight rates in England and between English ports were rather unfavourable compared with freight rates from the Continent.

Mr. Robinson said he was at full liberty to do as he wanted down at Avonmouth and mentioned a price of 35/- for 70% acid. I considered this price far too high. We had

originally in mind to put up a factory in England, France and Germany. I had, though, been under the impression that the manufacturing conditions on the Continent were such that a factory in England would work under unfavourable conditions, but when he had found Avonmouth to be a suitable place for a Lithopone factory it ought also to be suitable for a Titanium plant. Mr. Robinson thought he could make us conditions at Avonmouth which would enable us to meet any competition from the Continent.

I told him that with the old friendship between him and you, we ought to be able to find a basis for an arrangement. Mr. Robinson said that if we would go together with him he would be glad to do so. If we preferred to put up a factory alone he would like to see it at Avonmouth.

On my question about Barytes he thought he would be in no difficulty to get this, as he, on advertisement, had had many offers of deposits in England. He could also have Barytes from the South of Europe and his relations with the Metallbank were such that they would not decline to let him have Barytes from Meggen.

Saturday I spent a very pleasant time with Mr. Robson at Avonmouth.

They have a very large site, so that there is plenty of space for Titanium and other factories. The Otenan plant looked well. The site is near the harbour. The water supply at the present was very limited, but Mr. Robson thought they could be able to make arrangements to meet our requirements at reasonable conditions.

Apart from Sulphuric Acid, the manufacturing conditions in Avonmouth are probably equal to most places in England. Mr. Robinson considers labour conditions to be better and I have no reason to doubt this.

Exhibit 94

The site is placed on a low flat land near the sea and some foundation work will probably be necessary.

With regard to freight rates within England and for export, information will be sent me either by Mr. Robson or Mr. Robinson junior as soon as they have got it. Mr. Robinson senior mentioned that he was closely connected with the railway companies in England and the policy of these companies was, on demand, to reduce the freight rates if necessary, provided they thereby did not put other industries out of business, which of course is not the case with Titanium, anyhow at present. Motor transports on the roads was used increasingly and may prove far more advantageous.

Mr. Robson told me that Barytes could be had at the price of £2.- per ton. If we mined it ourselves it could probably be had at the price of £1- or £1-5-0 (this is high, compared with I.G.'s and Pisart's conditions).

Monday I told Mr. Robinson senior confidentially, what our terms were with the I.G. and that in my opinion we should be interested in the erection of a factory in England, because of the advantages it presumably has to provide the British Empire with British goods, and the position it will give us in England. We could probably not expect to manufacture cheaper in England than on the Continent, but when putting up a factory we ought as far as it could be foreseen, ascertain that the conditions were such with regard to raw materials, labour and distribution facilities, that any competitor is not better placed and we were at least on equal foot with competition from the Continent. It was the lowest possible production price which should be the primary consideration. I had wished to mention this before he left on his winter trip and I would ask him

to consider the matter during his trip, from this point of view. His sulphuric acid prices were far too high and I asked him to consider to take his profit not in the sulphuric acid but through a participation in the Titanium enterprise.

Mr. Robinson thought this a very fair statement. He mentioned the importance of his enterprises and thought we should consider him a better partner than the I.G. which he knew and cooperated with in certain matters in Germany. His Zinc interest will lead him to the manufacture of Lithopone and he had had repeated approach from various sides with regard to Titanium.

He pointed out that the management of the Titanium enterprise would have to be made by us. He would give us every assistance from his concern, but we should have the management.

With regard to sulphuric acid, he suggested that we could buy this at a price equal to the I.G.'s and to be adjusted from time to time in periods of 5 to 10 years—in accordance with change of manufacturing conditions. Through his cooperation with the I.G. he knew their manufacturing prices. I did not mention our price in Leverkusen, as I did not think to be at liberty to do so.

I told him that I should have mentioned the longs years it had taken us to introduce the Titanium White into the English market, the conservative nature of this,—we were now selling at a rate of about 2500 tons Standard T p.a. and it looked as if it was a matter of price reduction to have this consumption considerably increased within a few years. Every English paint manufacturer was familiar with our material.

Mr. Robinson said that he found it perfectly justified that we should have a compensation for this. When we

had agreed upon the principle of the contracts, he would leave it to others of his organisation to work out these. He mentioned the mutual confidence you both had in each other and said that he was quite willing to leave it to you to fix the nearer conditions.

His idea was to have Mr. Robson and his son in the Board. We did not talk nearer as to what his participation would be. I only mentioned that we probably would not arrive at a basis that day and suggested that he thought over the matter and had a talk with you when he arrives in New-York during the spring.

The time for the erection of the factory, I thought, will have to be fixed under consideration of the development of the English market as well as the German, as we of course would like to start the new factory without impairing too much the manufacturing conditions of the German factory, but it might be well to make the arrangements in order to put ourselves on the English map.

I much enjoyed the talks with Mr. Robinson who asked me to give you his best regards.

I look forward to discuss this matter more fully with you on my arrival in New-York.

Yours very truly,

G. JEBSEN

Exhibit 95

Letterhead of
TITAN CO. A/S

No. 309.
GJ/AK

Paris, March 28th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I beg to acknowledge with my best thanks the receipt of your letters of March 14th and 19th concerning your correspondence with Mr. Robinson.

I have been awaiting the informations mentioned in my earlier letters. These arrived yesterday and I am looking forward to go through the matter early next week.

Yesterday I also received a letter from Mr. Holm quoting his London representative, Mr. Harold Wilson, as follows:

" I have just been informed that the Imperial Chemi-
" cal Industries are contemplating very seriously the
" manufacture of Titanium in this country. I under-
" stand that it has gone a long way. These people, of
" course, know the future of Titanium and they also
" think that they will get protection. It is exactly the
" same as with the Imperial Smelting, they are all out
" for protection, so that is that."

I enclose copy of a letter to Mr. L.B. Robinson in view of the above and hope my letter is all right.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 95

GJ/AK

..... Paris, March 28th 1930.

L.B. Robinson Esq.
95 Gresham Street
London E.C.2.

Dear Mr. Robinson,

Mr. McCarty has informed me of your correspondence with him concerning the visit of Messrs. Ticknor and Chase.

In this connection it may interest you that friends of ours have just been informed that the Imperial Chemical Industries are contemplating very seriously the manufacture of titanium. Whether the information is correct, I do not know. Some years ago they entertained the idea, but I was then informed—I believe your father was the source—that they had decided not to take it up.

With kind regards,

Yours very truly,

Exhibit 96

April 11, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have yours of March 28th, No. 309, reporting the information your have received with respect to the plans of the Imperial Chemical Industries.

Last year Mr. W. S. Robinson was told by those in control of the Imperial Chemical Industries that they had definitely dropped any idea of manufacturing titanium products, but it may be that they have changed their mind.

It seems likely that we shall have to do something definite with respect to manufacturing in England, but the decision can be deferred until Mr. W. S. Robinson's return which will probably be late in June at which time I expect to be in London also.

Yours very truly,

Vice President

Exhibit 97

Book D—page 288

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, October 23, 1930, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Field, McCarty, Rockwell, Sidford, Taylor and Thompson.

RESOLVED, that the action of the officers of the Company in consummating negotiations for the purchase by the Company of 50,000 6½% Preference Shares and 50,000 Ordinary Shares of Imperial Smelting Corporation, Ltd., of London, England, at the price of £1 each for said Preference Shares and £0.14.3 each for said Ordinary Shares, be and it hereby is and said purchase is approved, ratified and confirmed.

Exhibit 98

Letterhead of

TITAN CO. A/S

No. 387

GJ/AK

Paris, January 26th 1931

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I enclose copy of a letter received from Mr. Thompson regarding possible interest of the I.C.I. in Titanium.

When I next am in communication with. Mr. L.B. Robinson, I will ask if he has any information in this respect.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 98

Copy.

R. W. Greeff & Co Ltd London, 23rd Jan. 1931

Dr. G. Jebsen
The Titan Co A/S
26 Rue de la Pépinière
Paris
France

Dear Dr. Jebsen,

Mr. Noel Heaton has privately received information that the I.C.I. are investigating the possibility of Titanium pigments very closely. He was unable to get details as the information was of a confidential nature but the impression he formed was that extensive developments of the use of Titanium pigments were contemplated by this Company, and they were considering whether they could work with "Kronos" Brand, Blumenfeld or whether the Brown and Klein process would suit their purposes.

The information is vague in its character, but is passed on for what it is worth.

It is a matter for your consideration as to whether you wish to be in contact with the I.C.I. in the matter.

Yours sincerely,

ALFRED J. THOMPSON (sign.)

Exhibit 99

Letterhead of
TITAN COMPANY, INC.
7 West 10th Street
Wilmington Delaware, U.S.A.

Paris, July 15th, 1931.

GJ/HS.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty:

I much enjoyed my visits with you and Mrs. McCarty and was very glad to see on my last visit how well you were on the way to recovery.

I hope Mrs. McCarty is well and join her in the hope, that you will take care and not resume work before you are strong enough to stand the strain, so that you do not risk a setback.

In accordance with Mr. Cornish I continue to write you about the matters here, it being understood that you will only take the trouble with them as far as circumstances permit.

I arrived last Sunday afternoon in London, and left for Paris on Thursday morning.

Monday and Wednesday I went over the sales situation with R. W. Greeff & Co.. The sale of Standard "T" has improved somewhat in the last month, so that they reckon the sales were the same as last year during the same period.

Exhibit 99

—The sale of Extra "T" has gone back, in view of the competition with TiO_2. They are now introducing the TiO_2 product from Leverkusen, and have hitherto sold about 40 tons. It is appreciated in the paint trade. In the rubber trade the opinion differs—some prefer the Montecatini product, whereas others find our material competitive. In the linoleum trade the product from Leverkusen does not, as mentioned, give the same effect as the Montecatini product. The reason for this is under investigation.

The question of a reduction of the prices was discussed. —Mr. Heaton expressed as a preliminary opinion, that in case we will fully compete with Lithopone in England, the price must allow a paint manufacturer to make a mixture of Standard "T" and Barytes of the same tinting strength as Lithopone at an expense of £16 per ton (the price of best grade Lithopone). At Barytes at £5 per ton, this means £21/8/0d. per ton of Standard "T".

The experience of United States points to a price of £23 for Europe. It may be this is due to the further development of the use of special vehicles in U.S.A. These special vehicles are coming more and more into use also here, and a lower price of Standard "T" will presumably add to this development. No definite conclusions were reached, and the matter postponed for further considerations.— The time for making a reduction will anyhow not be before in the beginning of September after the holidays. The Lithopone Convention will have a meeting at that time, and it may also be advisable to wait till that has taken place.

Tuesday I called on W. S. Robinson and his son. I had an interesting conversation with them and enclose a Memo. regarding my interview with Mr. W. S. Robinson, during which the son was present most of the time.

Exhibit 99

I had lunch with Mr. L. B. Robinson, who had continued to study the conditions for a factory in London compared with Avonmouth. The study was, however, not finished.

He has also been working on drafts of the contracts—apart from license agreement—and will send me these.

You will note from the Memo.—Mr. W. S. Robinson's proposal:—that I work out a general scheme for an arrangement.

I promised to consider this.

I would not decline his suggestion, as you may find advantages in having a scheme put forward at the right time to him from me instead of having it come direct from New York.

In view, however, of the matter still being under consideration in Broadway 111, and—as expressed in Mr. Cornish's letter to Mr. Robinson—no conclusions having been arrived at yet, it looks to me premature at the present—apart from the fact that I have not developed my own view sufficiently yet. Conditions are so changing, that it seems doubtful whether it is advisable to make any definite moves at all at present.

I will much appreciate to hear from you in this matter as well as of any developments in U.S.A. pertaining to this.

I had a short talk with Dr. Kühne over the telephone last Friday.— Dr. Schütz had told him, that Mr. Cornish had ~~expressed quite some~~ interest in his suggestion to have Sachtleben with us in the Titanium business.— Dr. Kühne seemed interested and asked me to consider this until we meet.— I go to Leverkusen tonight and will meet him either tomorrow or Friday.

When in London I called, as Mr. Cornish suggested, on Colonel Foster. He was not in town.— Next day I talked

Exhibit 99

with him over the telephone, and he very kindly offered to call on me in Greeff's office the following day as he would not be in his own office. As I had to leave for Paris, I proposed to call on him on my next visit to London in August.

Mr. Warshow came here to-day and will go to Leverkusen on Friday with Mr. Juell.

Mr. Wilson is in Leverkusen to-day.

I look forward to meet Mr. Beschorman and Mr. Sidford in London in the beginning of August.

Mrs. Jebsen leaves to-day with the children for the coast. Her recovery has gone well, but she is still somewhat weak. She sends her kindest regards to Mrs. McCarty and yourself, in which I heartily join.

Encl.

Yours Sincerely

G. JEBSEN

Copy to
Mr. E. J. Cornish.

Exhibit 99

TITAN COMPANY, INC.

M E M O.

re interview with Mr. W. S. Robinson on July 7th, 1931.

Mr. W. S. Robinson told me, that he had answered Mr. Cornish's letter in the sense, that he will wait until we can form an opinion. He will be glad to cooperate with us in the Titanium matter, but in the case we take another decision he will understand, that this is a result of the circumstances of the situation. We must count that a tariff will be imposed within two years.

In one of his letters to Mr. Cornish he had mentioned —although this was no matter of his—the possibility that by continued export from Germany into England the Germans may consider to have a right to such, and a claim to be compensated if a tariff, or other reasons, brought us to erect a factory in England.

For instance the Germans had offered him to sell their goodwill in the Lithopone trade in case of a tariff. He had declined this and suggested, that they should put up a factory in England of their own—he had even offered to manufacture for them in Widnes, and they continue to sell to their customers.

I explained the difference between the situation of I.G. re the English market by the existing arrangement with us in Titanium, and their situation as Lithopone-manufacturers selling in the English market for their own account, and thought no such claim could rightly be raised in our case. — He was glad to hear this.

I asked him, if his objection to a compensation also applies to us. He said no, it was obvious that we should

have a compensation for the market we had developed.—He had only mentioned the above matter for our consideration—in view of his experience in Lithopone. I told him, that the question of cooperation with him had been under much consideration in the National Lead Co., but when I left, no definite opinion had been formed, and in short Mr. Cornish's letter gave the situation.— There was a desire in the National Lead Co. to cooperate with him, if it could be done to mutual advantage.

There were certain matters in his letter to Mr. Cornish in which I could not see clearly what he meant:

1) That he was afraid of being "left out" by not having the composite pigment included—he will remember that the compensation for the same could not be agreed upon—he had not accepted the formula of 8 times the profit, as he will do in case of Frickers Zinc Oxide business.

He thought it must be considered that Fricker has a factory and various assets besides the goodwill. I agreed, but it should also be considered, that our business, although established, is only in its infancy with a lot of ploughing work done, the value of which is not expressed by the present business.—Zinc Oxide is a product, the use of which is fully developed, and only grows with the general growth of the business.—He agreed—and as he may have appeared to be asking too much, and did not want to stand in a false light (I do not remember his expression)—he would suggest, that we go to one or two auditing firms of high standing and ask their opinion—as he had done when he purchased Orr.—I thought his suggestion very interest-

ing. In a case like this though—where an estimate of the future possibilities also enter into consideration—an auditing firm may not have sufficient competence. Their opinion may though be helpful.

2) How should his expression "avoiding wasteful competition" be interpreted? Competition between Titanium and Lithopone is unavoidable.—I had already, when Mr. L.B. Robinson informed me of their purchase of Orr mentioned, that I thought this will come.

Mr. Robinson had been thinking of unjustified cutting of prices to the expense of both. All pigments compete with each other, and cutting of prices will be to no one's advantage.

By having Zinc Oxide, Lithopone and Titanium under the same direction, their sale could be worked to better advantage of all. They should carry on as different organisations, but be directed from one source. Modern business should go for "Concentration of legislation" and "Decentralisation of administration." —I thought this may be all right if the economic interests were the same in all three industries, but when he had 25% interest in Titanium, and perhaps 100% in Lithopone, it may be difficult.

He proposed that I should work out:

1. a general scheme,
2. take up the question of compensation with Thompson & McLintock (auditing firm independent of him), and his son take it up with Honeymoon & Level (their auditors).

He asked me to keep in mind, that he had been holding back from Titanium in view of his friends. He

Exhibit 99

had been in Norway and seen the factory in Fredrikstad from outside before National Lead Co. had acquired it.—I told him, that when Titan Co. A/S. was for sale, I would in any case have given the National Lead Co. the first call in view of the previous cooperation.

I would think over his suggestion, but I could only consider it from the point of view of the Titanium industry—if the other relations between National Lead Co. and Imperial Smelting should be taken into account, it was beyond my competence.—He thought this all right.

I told him, I did not know how National Lead Co. will look upon bringing all into one pot.

Confidentially I mentioned, that Pisart had wanted an interest with us in Titanium, and I thought once, that the only way would be to bring all his pigment interests and ours—re the markets in question—into one pot, and both parties take a 50-50 interest, but neither McCarty nor Pisart was interested in that.

I told him that 50-50 arrangements had its advantages, but also decided disadvantages, and asked how he would look upon a 49-51% division.—He said this was of no importance to him.—When I had worked out a scheme, he would give me his frank opinion. I told him I will think the matter over, and that I will be back in London in the beginning of August. Mr. Robinson will, according to his present plans, be in London then. In the meantime his son will ask their auditor's opinion as to compensation for the goodwill.

G. JEBSEN

16/7-31

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Exhibit 100

COPY

November 6, 1931

Dr. G. Jebsen
Titan Co. Inc.
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letters of the 21st, 22nd and 23rd ultimo, Nos. 404, 405, 406, and have read them with a great deal of interest.

It is a little early as yet to tell what the exact position will be in England when governmental policies are fully developed, but we received a cable from Mr. W. S. Robinson a few days ago advising us that he expected import restrictions at an early date and a tariff in February. Mr. Robinson, as you know, is usually very well informed.

We are at a certain disadvantage in our English business in buying in a country that is on the gold standard and selling in one with a depreciated currency.

All of these indications indicate to me the desirability of manufacturing in England at an early date, but I find that my associates are not entirely in accord with this idea. However, we expect to discuss the matter fully in the near future, and see if we can come to some unanimity of opinion. In the meantime, we will be glad to have your views.

I am sorry that it was necessary for you to make the reductions in salaries referred to in your letter of October 22nd, but you really had little choice in the matter. It is gratifying to know that the reductions were received in

such good spirit by all of the staff. The action taken by you with respect to your own salary is particularly appreciated.

I am continuing to come to the office for a few hours each afternoon, and find it very interesting and enjoyable. So far there has been no indication of fatigue.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 101

Letterhead of

TITAN CO. A/S

GJ/KL

Fredrikstad, Den November 17, 1931.

Mr. Evans McCarty,
c/o National Lead Company,
New York.

Dear Mr. McCarty,

Many thanks for your two letters of October 30th and the one of November 6th. I received the first two the day before I left Paris for going to Norway and your letter of November 6th today.

I am very glad to see that you are recovering well and enjoy the return to the office for a few hours each day. I hope that you will be careful and not overtax your strength —better take it easy and not risk a set-back.

Re. the English position.

We have particularly two factors which may make it desirable to put up a factory in England:

1. The tariff question.

As far as this matter will influence, I would suggest that we await further developments.

The election has given a majority for a National Government and not specifically for a tariff policy, and drastic tariff measures, if not proven absolutely necessary, will by many be considered as a misuse of the mandate given. On the other hand, as time passes Mr. MacDonald and his

followers may find it more and more difficult to keep up their position against the pressure from the conservatives.

In Germany the situation is most seriously considered as to what measures should be taken to keep up their exports.

As the factory at Leverkusen is not yet fully occupied and in view of the latest low production prices, I am most inclined to think that we should still wait some time for further developments before making any decision, as far as being influenced by the English tariff policy.

2. The erection of a factory by competitors.

The danger of this should be followed closely. Mr. Beschorman informed me of the approach which has been made to the "Associated Lead", and I should appreciate much to hear from you whether your contact with Du Pont has developed any further information.

As to the National Titanium Pigment Company in England, there are no specific news. They have though not ceased their activity, as Greeff & Co. encounters their competition to the same extent as previously. Mr. Heaton mentioned today in a letter that he has authoritative information that our competitors are experimenting with precipitation of TiO_2 on colloidal clay—a matter which Mr. Heaton thinks of interest, as this base will show the advantage of less settling compared with Blanc Fixe and insolubility compared with calcium sulphate. Mr. Heaton does not though mention whether the competitors referred to are the National Titanium Pigment Company or Montecatini.

I have been in Fredriksstad a week, going through the position here.

I requested Mr. Knudsen some time ago to investigate the possibility of selling the dwellings we have for some of our employees, as these incur comparatively high expenses. We have three houses:

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Kasernegaten 49 is a smaller property for which, with the reduction in the personnel, we have less use.

Fleischergaarden (the house occupied by Mr. Knudsen), for which it is considered not so easy to find a purchaser, and

Astrupgaarden, which, presumably, will not be so difficult to dispose of.

The yearly expenses will be less if we sell these properties and compensate the employees for the extra expense of renting apartments or houses elsewhere.

Since my suggestion was made, the Norwegian currency has depreciated and this may lead to higher prices, but people in Fredriksstad are not looking forward to any better times of local reasons.

My idea was that we should sell the houses at prices corresponding to the booked value. There are mortgages on the houses, so that the loss on depreciation of the currency is counterbalanced to a great extent by the loan.

It happens that we have found people who are interested in the two first-mentioned properties, and it looks as if we may obtain prices which Mr. Dahl, Mr. Vogt and Mr. Knudsen, who are better informed than I am about present values, recommend should be accepted and practically corresponds to booked value. I have asked them to try to make the sale subject to your approval; but if the purchasers will not agree to such a delay, we have thought it better to accept. I hope this will meet with your approval.

With regard to Astrupgärden, which is occupied by Mr. Mölbach and Mr. Hanssen, we have thought of waiting, as this property is easier to sell, and in case the depreciation of

the currency will effect higher prices as time goes, we may take advantage of this.

Considerable effort is made by the Government and authorities in Norway to keep the price level down, in spite of the currency movement, in order to keep the export industries going. Norges Bank (corresponding to Federal Reserve) wanted to follow the policy of keeping the Norwegian currency on a gold basis, but has been forced, partly by circumstances and partly by pressure from the other Scandinavian central banks, to depart from it. It seems that the stabilization cannot take place before the English currency is stabilized and that it will follow the movement of the £, as Norway by its export and important mercantile fleet is to a very great extent dependent on the English currency.

I leave tomorrow for Oslo and at the end of the week for the Mines at Rekefjord, to go through the new plant and will at the same time attend to the questions in Mr. Hallett's letter of September 25th. The production is about 750 tons a month at present and the TiO_2 content of the concentrates is 44.5% to 45%. Mr. Lenschow has the impression that the grinding installation is on the smaller side. With improvement of this, he estimates the capacity to 1000 tons per month, but hope to reach a higher figure. I will write you further about this after my visit at Rekefjord.

Mr. Dahl and Mr. Vogt requested me to send you their very best regards.

With kindest regards to Mrs. McCarty and yourself.

Yours very truly,

G. JEBSEN

Copy to Mr. Cornish.

Exhibit 102

Letterhead of

THE ROOSEVELT HOTEL

NEW YORK CITY
NEW YORK

November 21, 1931.

Dear Mr. Cornish:—

I received a rather important telegram from Tasker (Associated Lead) last evening and I am sending along a copy to your hotel as I cant get hold of you at Broadway this morning. As you may wish to send a copy to Mr. McArthy, I am enclosing an extra one and if you would like to have a talk with me on it during the week-end, I shall be available. If not, I will telephone you first thing on Monday morning and arrange to come down to Broadway as soon as you are clear of your morning correspondence.

You will remember I have discussed the probability of some such move coming about with you several times and it is really an outcome of talks Tasker was having while Mr. Beschorman was in London. I hope, therefore, your own views as to the Titanium future in England can be easily adjusted to fit into this position so as to keep the British Empire market under our control. If you can fortify me with your views on a workable joint effort, I shall go back home quite happy.

Sincerely yours,

ROBERT BROWN

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COPY

COPY TO TELEGRAM

To Robert Brown, New York from H. S. Tasker, London.

"Have been approached by National Titanium Pigments with view of joint manufacture (at) Runcorn adjoining factory (of the) Chemical & Metallurgical (Co) who will supply buildings and facilities (on) advantageous terms and acid (at) very low rate. Company will cover British Empire in order (to) take advantage (of) future preferential tariff. Venture will be supported by chief interests (associated with) Chemical and Metallurgical Co. namely Barnatos (Johannesberg) Consolidated, and. Kleinworts and New Consolidated Goldfields (who are) also willing to (give) financial support. Felt such influential approach could not be neglected in view of their determination (to) proceed in any event and (I) have therefore signed (a) six months agreement binding upon both sides (for) joint consideration and action on the basis (that) they put in process, patents and goodwill, and plant (and) we put in Brown-Klein patents benefit (of) control (of) raw materials—but not the actual Hopkins & Williams (Travancore) Shares—benefit (of) selling organization at reasonable commission and for this we divide equity fifty-fifty with them after providing return for those who provide finances etc. The National Lead Co's contracts (for ore) of course (will) not (be) disturbed. If (in) meantime they incur trading losses in existing pilot plant during (the) six months we shall bear this up to One hundred pounds per month. Although (the) other side (are) anxious (to) proceed immediately (I) have persuaded them (to) allow

Exhibit 102

us (to) first approach National Lead Co. with (the) object (to) establish one factory including all three interests on the basis of we and National Titanium Co. divide joint holding (on basis of) fifty-fifty. Please try to ascertain whether National Lead Co. are willing (to) cooperate (on) above lines. If affirmative cable as early as possible their views regarding terms on the basis of New Company also take over their position (in) British Empire. In the event of this (the) Rundorn location is not absolutely essential. Reasonably quick action desirable in view of political situation.

TASKER

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COPY

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

December 14, 1931

Dear Dr. Jebsen:

I have your cable of December 2nd from Cologne in reply to mine of November 28th; also your letter of November 17th from Fredriksstad which was written before my telegram was dispatched.

Your recommendation that we await further developments before reaching a decision with respect to an English factory has much to commend it although it is always possible that our hand may be forced by competing interests.

So far we have had no advices of any duties being assessed upon titanium products by the British government. We read in the newspapers that the German government has been given authority to negotiate on all tariff matters, and it has occurred to us that a word from our friends in the I. G. might influence the government to make representations to England with respect to titanium directing the attention of the English government to the fact that titanium products are not made in England in an important way, and are being imported from Germany.

Mr. Robinson writes that there is a very wide move throughout the United Kingdom to extend local manufacturing, and titanium is definitely included.

In my letter of November 27th I sent you copy of a cable received from Mr. H. S. Tasker of the Associated

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Lead Manufacturers telling of one project that is now being definitely considered.

In any event, I think our own minds should be as clear as possible as to what we want to do if we are forced to move quickly.

I do not know just what is the present position with respect to your negotiations with Mr. Robinson and the Imperial Smelting Corporation nor have I heard any final conclusions as to whether or not Avonmouth is a desirable point for the manufacture of titanium pigments. It seems to me that that is one of the first things we should clear up. I am under the impression that aside from the question of water supply Avonmouth is not so advantageous a point for the distribution of the finished product as is, for instance, London, but this may be offset by a lower price on sulphuric acid and partly also by concessions in freight rates from the Great Western Railway. Mr. Beschorman handed me some calculations bearing on this point, but I have not had an opportunity to consider them carefully.

Should the British government place a tariff on crude barytes our supply of that material might easily become an important question to us, and I have been wondering if in that event it would be advantageous for us to make some sort of an arrangement with LaPorte. As I understand it, LaPorte manufactures blanc fixe from Witherite obtained from a mine owned or controlled by them in the Newcastle district. If an advantageous arrangement can be made with LaPorte we would not only have a British source of supply, but would be saved the cost of a blanc fixe plant which is not inconsiderable.

You are naturally basing your calculations on the use of Norwegian ilmenite, but should Great Britain in pursuance of their present protective policy put a tariff on ilmenite we

might be forced to use Indian ore. At the moment there would be no difficulty in securing our supply of Indian ore should we think it wise to do so.

As I wrote you some time since, we have again been approached by Mr. Chase and his associates on the subject of an arrangement with respect to the Blumenfeld patents. These gentlemen would like to secure a working arrangement in the United States, and in order to get it are willing to be of any assistance they can in helping us to secure a similar arrangement in Europe. They claim that they have no interest in the European situation whatsoever. I understand that there is a possibility that Mr. Blumenfeld may be in New York on his way back from Japan before the end of this mouth in which case an opportunity will be afforded to discuss the matter of his personal interest with him. I have told Mr. Chase that this was his part of the project, and we would await some definite suggestion from him.

I do not know just how far it is wise for us to attempt to go in gathering all interests into one camp before starting an English factory, and it may be that we will do well to go ahead on our own, and deal with the other interests later.

It has been so long since I have had an opportunity to discuss these questions with you that I feel I am not very well acquainted with your views on the subject.

In connection with the negotiations with Mr. Robinson it will interest you to know that we have decided not to join him in his lithopone and zinc white businesses.

With kindest regards for you and Mrs. Jebsen, and every good wish for Christmas and the New Year, I am,

Yours very truly,

McCARTY

Vice President

Exhibit 103

CABLEGRAM

1931 DEC 2 PM 11 13

DW240B KOELN 26 2
NLT MCCARTY LEADCO NEWYORK,

LEADCO MCCARTY.
c/o NATIONAL LEAD CO
111 BROADWAY

RECOMMEND AWAIT FURTHER DEVELOPMENTS ENGLISH AND CONTINENTAL POLICY BEFORE ANY DECISION REGARDING FACTORY ENGLAND LETTER SENT FROM NORWAY NOVEMBER 17 REGARDS.

JEBSEN.

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COPY

December 15, 1931

W. S. Robinson, Esq.
95 Gresham Street
London, England

Dear Bill,

Many thanks for your letters of the 25th and 30th November.

I am glad to hear that you escaped pneumonia, and hope that your stay at the seaside has put you on your feet again. These must be very difficult times for you, and you will have to take care of yourself in every way that you can.

Your letter to Mr. Cornish on the subject of exchange was very interesting indeed.

While we sustained some loss on our balances in London they were relatively small compared with the losses on open customers accounts and undelivered contracts for white lead sold in sterling. Fortunately, however, the loss on the exchange will not exceed the profit in the merchandise. We should have been warned by your letters and comments when you were here in June, but it seemed incredible to us that England would abandon the gold basis even temporarily.

Mr. Beschorman tells me that he has written you with respect to our participation in the Orrs and Frickers businesses.

In so far as titanium is concerned I think that both Mr. Cornish and Dr. Jebsen would like to postpone building a factory in England until there is more certainty as to sterl-

ing values and as to the policy of the English government with respect to a tariff on titanium. It seems to me quite likely, however, that if we wish to protect our position in Great Britain we shall have to act before these matters are definitely settled.

So many of our people have had a hand in these conversations, and I have been absent from so many of them that I am not sure just how matters stand at present.

One of the first things that we shall have to do, of course, is to determine whether or not Avonmouth is a desirable location for a titanium plant. My impression is that there was some question as to whether the supply of fresh water was adequate, and Mr. Robson was to investigate the matter. I have not, however, learned the results of his investigations. Apparently Avonmouth is at some disadvantage with respect to London in the matter of freight charges, but these can be offset to some extent by a lower cost for sulphuric acid, and it is also possible that in order to get a plant located on their lines some concessions may be obtained from the Great Western Railway. That is a matter you will no doubt discuss with Sir Robert Horn at the proper time.

Another question for us to decide is whether we wish to make an attempt to bring the several groups of patents under one control before embarking on the enterprise. This may be possible, but it is likely to delay matters, and it may be better for us to make a start, and deal with competing interests later.

I have written Dr. Jebsen with respect to all these matters. He has just returned to Paris from Norway, and is now in a position to deal with them all very promptly.

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You probably have formed some fairly definite ideas yourself with respect to this business, and your views will have great influence with us.

Your letters give no information as to where you will b at Christmas time nor as to what your winter plans are. You have not spent a winter in England for many years, and I am wondering if you are going to risk it this year particularly in view of your recent illness. If Santa Barbara tempts you, and you can be away from London long enough for such a journey in these troublous times we will look forward to the pleasure of seeing you in New York.

Do not be disturbed about my health. My strength does not come back as rapidly as I had hoped, but it is returning slowly, and I am enjoying my office contacts very much.

Mel joins me in love and best Christmas wishes for you and Gertrude.

Sincerely yours,

7713

Exhibit 105

Letterhead of

TITAN CO. A/S

Mr. Carter ✓
Mr. Beschorman ✓

No. 418.
GJ/AK

Paris, January 4th 1932.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of December 14th. This has crossed my letters of December 8th and 9th, which partly answer the questions you put.

In the following I will try further to answer your various questions, as far as I can under the present circumstances.

The conditions of the world at the moment are such, that any definite engagement, based on politic movements, may prove wrong.

Personally I am at present inclined to think that when the economic war is over, we may find the various important European countries with moderate tariff barriers, which make it advisable to erect factories in markets like England and France when these markets are sufficiently developed. This development has, as you know, not been so rapid as it looked like some years ago and, although there may be a general change in 1932, we need also a considerable increase

of the sales before this point is reached. In the meantime, it will probably be more economical to base ourselves on the factory in Leverkusen, which is not fully occupied.

Re England.

Your thought of a possible effect of representations from the German Government to England, with respect to Titanium, did fall in with my own. Nothing has been done by the I.G. hitherto and Mr. Holm expressed over the telephone the opinion that the German Government has so much more important matters to deal with at present, that they will not consider it opportune to take up such a matter. (You will know that a 50% dumping duty has been put on Lithopone since you wrote, and Mr. Holm considered this caused by the forced import from Pisart.)

I am more afraid that the English Government's attention to Titanium will be drawn by English interests, than by German.

It will of course be unfortunate if an English Titanium factory should be erected by competitive interests, and the idea with the British Titan Products Company—as a sign that we intend to put up a factory in England—not meet the purpose.

It is difficult to understand that the Associated Lead Manufacturers will start a titanium manufacture, knowing as we do, what it costs to get a factory well operating as to time and money,—and with us as competitors. It seems to me that the only excuse of such a step would be ignorance. I hope it will be possible, with your 20% interest in Associated Lead, to make it clear that such an enterprise will mean a loss of money and no profit.

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Re Mr. Robinson.

I have done nothing vis a vis Mr. Robinson (except inquiry re water-supply), as Mr. Beschorman last autumn, when leaving England, wrote me that "the situation would be discussed in New York and some sort of decision arrived at, of which I would be informed". It seemed mal à propos in the meantime for me to take up the matter with Mr. Robinson or his son.

You will remember from my correspondence, late autumn 1930, that Avonmouth is not well placed from the point of view of freight rates. This was chiefly based on rates for water transport or with trucks, this being cheaper than railway. Mr. L.B. Robinson expressed the opinion that various other factors may counterbalance this, and intended to make an investigation in this connection, which however had not materialised last summer. He had at that moment in thought later to put up a Lithopone factory in Avonmouth and, in view of this and his presumably better knowledge of English conditions than mine, I have postponed to form a definite opinion.

From our investigations hitherto, Liverpool, London or Newcastle are indicated as far as freight rates are concerned.

Laporte's position in Luton seems to me not favourable for a titanium factory—it being in the middle of the country, with extra costs of transport for incoming materials and probably difficulties with the disposal of our Sulphuric Acid—Iron Sulphate solutions. The Blanc Fixe we bought from them for Fredriksstad was not very satisfactory, wherefore we preferred to make our Blanc Fixe from Barium Carbonate.

Exhibit 105

It is difficult to believe that the English Government should go so far as to put a tariff on crude Barytes and Ilmenite.

With regard to the Indian Ilmenite, the freight rates will—I presume—represent some handicap and not always remain as low as at present.

Re Blumenfeld.

From Mr. Blumenfeld's office I am informed that he will be back here at the end of January or beginning of February.

Mr. Blumenfeld does not, as you know, inspire much confidence, and any arrangement with his group would, I believe, be facilitated if his interest was controlled by somebody else of his group, of a more responsible nature and trustworthiness.

The negotiations last spring developed the following points:

Commercial Solvents' interest in England was, according to Blumenfeld, limited so, that they could do nothing without him. It seemed, though, that Commercial Solvents had some rights to Blumenfeld's English Patents, and I have the impression that Mr. Ticknor and Mr. Chase thought, this, together with Blumenfeld's weak financial position, would enable them to bring about an arrangement giving them the control of his interest in England.

Montecatini entered, though, also into the picture, as it had a right for some years to export to England.

On Mr. Ticknor's and Mr. Chase's suggestion, based on their talks with Donegani, it was assumed by them that Donegani would accept a certain arrangement. When I met Donegani with Blumenfeld, it appeared, though, that

Exhibit 105

Donegani demanded considerably more and seemed to have no regard for his agreement with Blumenfeld, as this has been represented to me by B. Blumenfeld did not seem to have sufficient strength to keep Montecatini to their agreement, and suggested that we should make an arrangement with him and fight Donegani together afterwards. I declined to buy a law-suit, and the other alternative was to try to conciliate the two. Mr. Burton made an attempt with not much result. I would not follow their suggestion to go between; both Blumenfeld and Donegani seemed to hope that we would make a further sacrifice for the sake of an arrangement.

Also the English position with respect to the composite pigment was left open in your talks with Mr. Chase.

My impression, as the negotiations developed, made me less and less interested in an arrangement. I tried, though, to develop the matter as far as possible, up to such a point that an arrangement might be made in case this was considered desirable for your interests in U.S.A.

When Mr. Beschorman was in Leverkusen, it was agreed with Dr. Kühne that the contact with Dr. Mayer of Aussig, in this matter, should be continued, expressing to him that, with Dupont's entrance, the question had been postponed, but it might be advisable that he tried to make an arrangement with Blumenfeld, by which Aussig takes over the control of the same countries as T.G.m.b.H., as this might facilitate any future arrangements between these two companies.

Mr. Ticknor said to me last autumn that Mr. Ewing, Dupont's representative in London, would see Donegani this autumn, and, as Dupont has many points of interest together with Montecatini, Mr. Ewing might influence him.

It seems to me that Commercial Pigments or Dupont are nearest to clear up the matter between Blumenfeld and Montecatini. They must have a clearer view of the relations between these two, and should have influence with both. If Dupont took over Blumenfeld's European interests, we would have some more responsible people to deal with.

The value of the Blumenfeld French group is chiefly a nuisance value. What this represents is difficult to say under the present circumstances, as it—first of all—depends upon his ability to get capital. His reputation in France will make this difficult for him and, as far as I know, most of the important groups in France have got enough of him. He has, though, connections with Mines Domaniales de Potasse d'Alsace, which has a factory in Rouen, and Blumenfeld talked of putting up a factory with them. The present conditions in France are, though, not encouraging.

Blumenfeld's sales policy generally has been to cut prices. This is particularly experienced by Mr. Gilbert who meets him as competitor also in other products than Titanium.

I believe the wisest thing to do is, as you have done—await that Mr. Chase develops some suggestions.

I have noted with much interest your decision that you will not join Mr. Robinson in his Lithopone and Zinc White business.

In view of Mr. Beschorman's conversations in England and the above mentioned letter from him, and as I personally have considered it better to await developments—I have postponed any initiative on my part.

I think, though, it would be well to continue the study of the best place and conditions for an English factory.

Exhibit 105

On the other hand, any move by me may interfere with the conversations which have gone on by your people.

With regard to Mr. Tasker's plan, the only matter which seems to be of interest to us is the facilities offered by Chemical and Metallurgical Company as to Sulphuric Acid. It would be interesting to know on what terms the supply of Sulphuric Acid is thought to be.

Please extend my best wishes for the New Year to all friends in the National Lead Company.

With the kindest regards for you and Mrs. McCarty and every good wish for the New Year,

Yours very truly,

G. JEBSEN

P.S.—The calculations re freight rates from Avonmouth were based on rates for water or road transport. The railway rates were special—and even so they were higher—in some cases considerably higher.

I enclose a list of the rates from Avonmouth to various places.

Copy to Mr. Cornish.

Exhibit 106

January 8, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have not written you in reply to your letters Nos. 407, 408 and 409 regarding the English position as there have been no developments during the holidays.

Our people here are inclined to share your views, and await developments, but Mr. Robinson writes that he considers it very unwise to delay.

My own opinion is that sooner or later we will have to have an English factory if we wish to maintain our position in the British market, and that the necessity for it may come sooner than some of us now anticipate. In view of this, I think, we should have as definite ideas as our present information permits as to what we want to do in the event that we decide to manufacture in England.

It may or may not be possible or desirable for us to clear up the patent situation before we start. Nothing has been heard from Mr. Blumenfeld since my last letter to you on the subject, and yesterday I suggested to Mr. Chase that he attempt to formulate some proposal for the rights to the Blumenfeld patents in England so that we might have something definite to begin with. I fear that the European situation is too complicated for us to deal with all countries at one time.

On November 27th I sent you copy of a cable from Mr. Tasker. We heard nothing further from him on the

subject until yesterday when a letter arrived stating that he would write us shortly with respect to titanium matters. We will try to keep you posted with respect to this correspondence, but there is no reason why you should not meet Mr. Tasker the next time you are in London, and discuss the position with him.

We have no desire to have the Associated Lead Manufacturers share in the management of the English business, but should we form an English company it might be wise to allow them to participate to a small extent as they are large potential buyers as well as potential competitors. In addition to this they are largely interested, as you know, in Hopkins & Williams Travancore Ltd.

I think that heretofore all your plans for an English factory have been based upon the use of Norwegian ore, but it may prove to be desirable to use ore of British origin in which case the Travancore deposits would be of interest. For your information, these sands containing 52% TiO_2 can now be bought for from 45 to 50 shillings per ton c.i.f. United States ports.

Please let us know by cable when you next visit London as there may be some matters we would like to put before you at that time.

Your letter of December 23rd, No. 417, has just been received, but I have not had the time to study it.

With kind regards and every good wish for the New Year, I am,

Yours very truly,

Vice President

Exhibit 107

January 12, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Some weeks after his return from Europe last autumn Mr. Beschorman handed me some draft copies of proposed agreements between the Imperial Smelting Corporation and British Titan Products which he said he had received from you. As far as I can find there is no further information here concerning them. They appear to be the result of your conversations with Mr. L. B. Robinson, but of that I am not sure.

Although I have not compared them carefully the agreement dealing with the license appears to follow the lines of the agreement of 1920.

The agreement respecting the price of acid is based partly upon the profits in the business.

We presume these contracts embody Mr. Robinson's ideas, but we have no expression of your views concerning them.

As a matter of fact, we over here do not know just how your negotiations with Mr. Robinson stand, and will appreciate it if you will let us know what the situation is.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 108

Book D—page 351

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, February 18, 1932, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Croft, Field, Rockwell, Sidford, Taylor and Thompson.

Approving proposal to W. S. Robinson for organization of new Company to handle titanium business in Great Britain, capitalized initially at £500,000 to be issued as follows: £250,000 to Titan Company, Inc., (£125,000 thereof for license under patents, technical knowledge and good will and £125,000 thereof for cash), £125,000 to Imperial Smelting Corporation for cash, and the remaining £125,000 to Imperial Chemical Industries or other satisfactory associates for cash.

Exhibit 109

Mr. Cornish has a copy of Dr. Jebsen's letter

DR. G. JEBSEN

Care of R. W. Greeff & Co., Ltd.
Thames House,
Queen St. Place.
London. E.C.4.

18th Feb. 1932

Mr. Evans McCarty,
Vice President,
The National Lead Company,
111, Broadway,
New York. U.S.A.

Dear Mr. McCarty,

My best thanks for your two cables :-

(1) "Please consult W S Robinson and ask him to show you recent cables and correspondence stop will appreciate your opinion"

(2) "If you approve suggest that you propose to Robinson that deals Titan products have initial capital of £500,000 stop. £125,000 to be issued to Titan Co for license technical knowledge (of) and goodwill of established business further £125,000 to be issued to Titanco for cash and £125,000 to Imperial Smelting Corporation for cash remaining £125,000 to be sold for cash to ICI or other prospective partner stop question of location of plant contracts for acid and ore may be dealt with separately if desirable stop should retain Greeff as selling agents to preserve continuity of business stop If plan not approved by Robinson invite counter proposal"

Exhibit 109

I have had two talks with Mr. Robinson and submitted to him the suggestion contained in your last cable, however, without indicating that somebody else could be taken as partner instead of I.C.I. I also left out for the time being any special agreement for the supply of raw materials mentioning only that I presumed we would have these on the most favoured customer conditions.

I told him that I personally would prefer to have 51% interest as I thought this would be of advantage to all on the point of your management, but I did not make it a condition. He thought this might be arranged with voting shares. He mentioned that I.C.I. might say that this, being a British industry, the majority ought to be in British hands. On my reaction that that would be the end of our negotiations he expressed the view that we might always talk about it. We finished up that he would say to the I.C.I. that there was an opportunity for them and him to make an arrangement with us on the basis of 50:50 interest.

On his question I told him that a preliminary calculation for a factory of 1200 tons Ti02 and 5000 tons of Standard T annual output had shown a cost of about Kroner 4,000,000 or £220,000, not including a factory for barium sulphide, cost of site and various other minor items. The calculation was made by a Norwegian engineer—Mr. Mulbach—on the basis of Continental experience and the Pound or Kroner to have Gold value or that "£1 was still worth 20/- in England". With increasing domestic prices the figures must be different. To this should be added working capital. (Later I informed him that the capital employed in our German enterprise was around Marks 7,000,000.) He expressed the opinion that the domestic price level will not increase for some time to come.

He evidently thought £375,000 cash very much. The company should not do banking business. Capital could be provided for but not called in unless necessary. He would expect a company with £500,000 capital to show normally a nett earning of £50,000. I thought this could be expected as a normal nett profit of £6 per ton for Standard T and £19 per ton for Ti02 seemed reasonable. Our present English price would be too high to consider as a basis for a normal nett profit.

On his request I informed him confidentially of the quantities delivered to customers within the British Empire in 1931, and that a rough estimate had shown an earning of about Mks. 250,000—this last figure with the reservation that we had not yet definitely established it.

He mentioned his information to you that his output for Sulphuric acid on the basis of his present capacity in Avonmouth has its market. I told him I considered a higher freight rate from Avonmouth to consumers compared with London or Widnes corresponded to 5/- to 7/- lower price for Sulphuric acid in Avonmouth.

Mr. Robinson did not express a definite opinion as to the situation of a factory but from our conversation I gathered that he was still interested to have it in Avonmouth as he intends to increase his capacity by about 100,000 tons sulphuric acid a year. I could not see the advantages of Avonmouth and thought Widnes might be more interesting in view of a possible arrangement for delivery of barium sulphide from Orr's factory which would be to the advantage of both. I had, though, postponed any definite opinion as I had been told that he had planned putting up a lithopone factory in Avonmouth. He mentioned confidentially that Pisart was considering erecting

a factory in Avonmouth on the basis of supplies from him. (Pisart must then have changed very much his opinion of Avonmouth as expressed to me some years back).

I pointed out to Mr. Robinson that we produced Sodium Sulphide as a by-product and it may be of interest to the I.C.I. to have the opportunity to handle this material from us in order not to have the trade disturbed.

Mr. Robinson will see the I.C.I. people to-morrow and I have an appointment with him on Saturday.

Considering the advantages and disadvantages I believe an arrangement on the above lines is interesting to us. Apart from both companies' general position it will represent a combination with the two most important sulphuric acid manufacturers in England who can, presumably, make acid cheaper than anybody else—I.C.I. in Billingham and Imperial Smelting Corporation in Avonmouth.

It does not appear from Mr. Robinson's conversation that he would be willing to give us a price for sulphuric acid cheaper than what may be considered reasonable in consideration of the quantities we may consume and presumably the Imperial Smelting Corporation and I.C.I. will have an arrangement between them for the regulation of the market, but if combined with them we will probably have prevented anybody else from manufacturing on the basis of cheaper acid than us.

If a combination with these two companies prevents anybody else from entering the industry—anyhow on a basis representing serious competition—it can be worth while to have them as partners also in view of the strength and influence they otherwise can exercise.

I told Mr. Robinson that we had been in no hurry as to the erection of an English factory in view of the German

factory not being fully occupied, but if the present trend of policy develops further we will have to put up a factory sooner or later in this country as we, under no circumstances, will let the English market go and I.C.I. have to reckon with our competition.

With regard to the Barytes position Mr. Robinson mentioned first that he controlled the only two mines in the United Kingdom—his son informed though that negotiations for the second mine were not concluded yet. Mr. W. S. Robinson told me he had been investigating mines in Devonshire and intended also to investigate some old mines in the Midlands. In Wrentnall he had ore in sight for about three years' consumption and a year's supply in Widnes. He was still importing Barytes from Germany and I gathered that he intended to continue to do so in spite of the 10% duty.

Mr. Tasker is away on holiday and will return next week. I saw Colonel Foster to-day—he sends his best regards—and touched on the question of the interest Goodlass Wall & Lead Industries take in Titanium. I mentioned incidentally costs and the trouble we have had in acquiring our experience and also that it has taken us three years to educate the Germans in the matter. I did not think there would be room for two factories in England. Colonel Foster agreed with this and spoke on general lines of co-operation. I mentioned the importance of mixtures of white lead and titanium and suggested that the A.L.M. should work in this direction being supplied by us. Colonel Foster offered to arrange a lunch with Mr. Tasker on my plan to return to London in the first week of March.

I leave on Saturday evening for Frankfurt to deal with certa matters with Mr. Weber Andreae regarding sales.

Exhibit 109

Mr. Weber Andreae has expressed the desire to have me meet Dr. von Schnitzler who is leaving for New York on Tuesday the 23rd. He is one of the most important, if not the most important man on the commercial side of the I.G. He is a lawyer by education and somewhat of the type of the Germans of the families in the best positions before the war.

I had a visit of Mr. Weber Andreae in Paris in January and told him en passant that his visit once to The National Lead Company of New York was much appreciated and he suggested that von Schnitzler should make a call, which I encouraged—(I thought it would be well the closer the personal connection can be established)—and I understand Mr. Weber Andreae has arranged that Dr. von Schnitzler shall call on Mr. Cornish and you during his visit to New York.

With kind regards,

Yours very truly,

G. JEBSEN

P.T.O.

P.S. I enclose statement of deliveries to customers in the British Empire.

Exhibit 110

COPY March 5, 1932

ear Dr. Jebsen:

Your letter of February 18th to Mr. McCarty has been read by all of us with much interest. We expect another letter from you shortly.

I think that the sales that they have been making in England, and the profits made thereon, justify the demand for £125,000 for the good will and knowledge of our people. The losses suffered in this business in learning about its various conditions, our ability to overcome those losses and reduce the cost of making titanox from 28¢ a pound to its present price, entitled us to a fair compensation for that experience which would become available to a newcomer.

I would not like to make any arrangements whatsoever with people whom I would distrust if they had more than one-half the stock. If there is any reason in the laws or customs of England to preserve the theoretical control of the company in people living in England, I know of no reason why we should complain of that condition at this time. I therefore would not make it a sine qua non that we must have 51% of the stock—or even more than 49%—if the laws of England make that desirable.

I expect to hear from you very shortly and therefore will not at this time further discuss your very interesting letter.

Sincerely yours,

E. J. CORNISH

P. S. They hope to operate on Mr. McCarty about the middle of next week and I will keep you and his other friends advised when anything worthy of a cablegram happens.

Dr. Jebsen
c/o R. W. Greeff & Co. Ltd.
Thames House, Queen Street Place
London E. C. 4, England

Exhibit 111

No. 6
GJ/AK

..... Paris, April 7th 1932.

Edward J. Cornish Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

I beg enclosed to send you copy of a letter from Mr. Robinson, which speaks for itself.

I leave for London next week in order to take up the matter with Major Barley and Robinsons.

It is of course not chiefly the patent situation which should be taken into account by the I.C.I., but our total position in the titanium industry, our sales and goodwill in the English market and our many years' experience from manufacture on a large scale.

I hope and think the I.C.I. will realise the fight they will have with us in case they want to take up the titanium industry with no agreement with us.

I.C.I. has last year shown quite some improvement in their position. Nevertheless they have had to go through a very difficult time and are not out of the woods yet, with their great variety of interests and the many new enterprises they started some time back.

If their reference to several of our basic patents expiring in a year or two, means that we should have to reckon with lower profits, it should be remembered that the profits I have taken as a basis are in ratio to the profits from litho-

pone, or even lower, and a reduction of the titanium profits would presumably lead to a still larger proportion of the lithopone business to be taken by titanium.

This is of course a somewhat delicate matter, in view of the Robinsons' interests, and I will have, before the conference with Major Barley, to hear from Robinson more in detail, in what way he has discussed these matters with I.C.I.

It will be of interest to hear Major Barley develop his ideas.

I understand from your letters that you do not lay stress upon the company being financed in the way proposed by us as long as we receive £125.000 for our going business and have 50% of the shares.

It may interest you that Major Barley called on me in Norway in 1924 or 1925, to the purpose of I.C.I. taking an interest in titanium at that time. I told him then, that it was too early to start a factory in England and he asked me to keep in contact with I.C.I. and remember them when we thought the time was ripe.

I saw him once or twice after that, and I met him, Sir Harry McGowan, Mr. Mitchell and Mr. Nicholsen on a boat leaving New York, I believe in 1928. Major Barley expressed then still interest for Titanium, but considered that the I.C.I. had their hands so full up with other matters, that they could not attend to the titanium question then.

I wrote Mr. McCarty about our conversations.

Major Barley gave me at the same time the interesting information, that he considered the new works which they were constructing at Billingham, able to deliver acid at 25/- a ton.

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As this was no by-product acid from zinc roasting, I considered the price very cheap. Dr. Kühne told me afterwards that the acid in Billingham was to be made of gypsum with cement as by-product and under favourable conditions, as in Billingham, with gypsum deposits on the spot and cheap coal, and the market for cement, the acid was to be had as a by-product for nothing.

The Billingham works were erected for the production of ammonium sulphate and, as you probably know, this industry is in a deplorable state because of far too many factories having been erected.

With kindest regards,

Yours very truly,

Exhibit 111

COPY

IMPERIAL SMELTING CORPORATION LIMITED

95 Gresham Street

London E.C.2.

4th April 1932.

Dr. G. Jebsén PRIVATE and CONFIDENTIAL
Société Industrielle du Titane
26 Rue de la Pépinière
Paris

Dear Dr. Jebsen,

Following further discussions of a general nature with Imperial Chemical Industries on the question of their association with us in the White Pigment industry, certain letters have been exchanged with reference to the best course to be followed in submitting a definite detailed scheme for consideration of their Directors.

In writing on these matters, and particularly the question of the disclosure of the financial return to be expected from the various branches of the industry, Major Barley has made the following statement:

"With regard to titanium white, for instance, our conclusions show that 6000 tons of pigments could be provided for by an investment of the order of £150,000 which would not justify a scheme on the scale put forward by Dr. Jebsen. The point, therefore, arises, would the National Lead Company agree to a scheme which was capitalised on the actual requirements of the situation and which

Exhibit 111

would take into account the fact that the patent situation in this country becomes extremely weak by next year".

I do not know whether the reference to 6000 tons of *pigments* is intended to refer to pure TiO2 or the composite pigments but it appears that the I.C.I. have already drafted some scheme in relation to Titanium of which we have not previously been aware. In the circumstances we feel it would be preferable for Major Barley and yourself to discuss the matter direct rather than that we should attempt to enter into discussion on the details of your business and estimates of capital required.

If this course appeals to you, I would be glad to hear when you may be free to come to London so that we may make the necessary arrangements for a meeting. In the meantime, we have not communicated with Mr. Cornish as it appears preferable for this to be done by yourself—rather than have advices to them coming from two sources.

Kindest regards

Yours sincerely,

L.B. Robinson (sign.)

Exhibit 112

Paris, April 27th, 1932

GJ/HS

Major L. J. Barley,
c/o Imperial Chemical Industries Limited,
Millbank,
London S.W.1

Dear Major Barley:

As requested by you during my conversation on Wednesday the 13th, with you and Mr. L. B. Robinson, I have the pleasure to confirm the following:

National Lead Company is willing to co-operate with Imperial Chemical Industries and Imperial Smelting Corporation in the development of a titanium industry in the British Empire on the following basis:

A limited company to be formed with a capital of £500,000 divided as follows:

Imperial Chemical Industries	£125,000	against cash payment
Imperial Smelting Corporation	125,000	" " "
National Lead Co. or its subsidiary	125,000	" " "
do. do.	125,000	for compensation for patents, trade mark and goodwill.

A royalty of 25 Norwegian Kroner per ton produced of titanium dioxide or its equivalent to be paid by the Company until the end of 1936.

The British Company to erect a factory in England for a production capacity to be decided upon.

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In case it should on closer study be found that less capital is required at the start, I am willing to recommend to the National Lead Company that only the amount of cash capital necessary will be called up, it being understood that in case an extension of the business is built up on profits remaining in the Company some method may be adopted in order to arrive at the result that the National Lead Company's group shall always retain one half of the voting power and shall receive one half of the profits either as dividend or by capitalisation of profits.

Thus on a capitalisation of £500,000, the whole of which is not required at present, the position would be:

125,000	(A)	shares allotted to N.L.Co. fully paid as consideration for goodwill and patent rights.
125,000	(B)	shares paid up only to the extent of one-third of the cash required and held by I.S.C.
125,000	(B)	shares paid up to the extent of another third and held by I.C.I.
125,000	(B)	shares paid up to the extent of another third and held by N. L. Co.
500,000		

The profits would be divisible equally among all the shares irrespectively of whether they are fully or partially paid. Thus the profits of any year would either be distributed as dividend or if it was desired that the bulk of them should be kept in the business one quarter would be paid in

dividend on the A shares and the balance utilized in paying up the uncalled capital on the B shares.

The following is intended as a brief statement of the main principles we agreed upon as a basis for the co-operation between the parties.

PERIOD.

We should co-operate for a minimum period of 30 years.

If any of the parties wish to terminate the arrangement at the end of this period the party shall at least 12 months previously offer its shareholding to the other parties pro rata with their interest in the Company at a price corresponding to the book value exclusive of any value for patents, trade marks and goodwill. (In default of agreement, the price to be settled by arbitration).

Shares not bought by one party can be purchased by the other parties in ratio to their holdings.

If no party wishes to terminate the arrangement, it continues in periods of ten years.

If no member is willing to purchase the shares offered for sale, they may with the consent of the remaining members be disposed of to other parties. Such consent not to be unreasonably withheld.

TERRITORY.

The British company shall manufacture and sell within the British Empire and Egypt with the exception of any part of North America.

LICENSES.

I beg further to state the following:

The titanium industry was originally started by the Titan Company A/S., Norway, and the Titanium Pigment Co., U.S.A., which in 1920 made an agreement of co-operation by exchange of all technical experience and exclusive

or nonexclusive licenses under their various patents for the production of titanium products.

In order to avoid competition and friction, it was agreed that each company should confine its activity of manufacture and sales to a definite territory; the Titanium Pigment Co. to North America and the Titan Co. A/S to Europe, Asia, Africa and Australia. As regards South America, this was left open for both companies.

National Lead Company acquired at that time a substantial and later a controlling interest in the Titanium Pigment Co.

In 1924 the National Lead Company acquired the controlling interest in Titan Co. A/S. and afterwards this company's patent interests were transferred to the Titan Co. Inc., U.S.A., which was formed and controlled by the National Lead Company.

In 1927 Titangesellschaft m.b.H., Germany, was formed by I.G.Farbenindustrie and Titan Co. A/S. (later subrogated by Titan Co. Inc.) for the purpose of developing a titanium industry within the territory of Germany, Poland, Russia, Austria, Hungary, Checkoslovakia, Switzerland, Roumania, Yougoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain and Portugal.

This Company by agreement exchanged licenses with the Titan Co. Inc. for their respective territories and the Titan Co. Inc. in turn exchanged these with the Titanium Pigment Co.

Titangesellschaft is by agreement with I.G.Farbenindustrie the exclusive licensee under all patents and inventions of I.G. in the "Licensed Field" for the whole world with the right to give sub-licenses.

The I.G.Farbenindustrie has further undertaken, besides covering its own requirements of Titanium products, also when giving licenses on processes involving the use or consumption of Titanium products to oblige its licensees to cover their requirements from Titangesellschaft m.b.H. or its licensee or sub-licensees.

I beg to quote the definition of the "Licensed Field" agreed upon with the I.G.Farbenindustrie.

> "By this designation is meant all methods and "processes in the field of the manufacture of tita- "nium compound containing two per cent (2%) or "more of the element titanium as well as the titanium "compounds themselves. By titanium compounds "are understood substances, materials, and composi- "tions in which the element titanium is combined "in a chemically or physically combined state. For "instance the composition pigments of the character "of the titanox belong to them. Simple mixtures do "not come under this definition."

The agreements provide that export of products within the "Licensed Field" outside the territory of the licensee cannot be undertaken by the licensee which also shall endeavour to prevent its customers from doing so.

Articles manufactured by the customers of the licensee can be freely exported except to and from North America in respect of which the parties shall endeavor to prevent such exportation in case the titanium product constitutes such an important part of such finished article that its sale will substantially interfere with the sale of the titanium products of the licensee in the territory to which the export has taken place.

Exhibit 112

(One exception is made in so far as the Titan Co. A/S., Norway, in its agreement with Titangesellschaft m.b.H. is reserved the right to export and sell maritime paints through its maritime organization. This deals almost exclusively in supplying Scandinavian ships and the sales constitute a relatively small volume of export).

If any party should withdraw from the co-operation by selling as above foreseen its interest in the British company, the above mentioned exclusive licenses granted by that party to the company become nonexclusive licenses.

It is presumed by the National Lead Company that its co-operation with Imperial Chemical Industries Ltd. and Imperial Smelting Corporation Ltd. will be based on the same principles for the purpose of avoiding friction and establish confidence and good co-operation between the various companies.

In order to preserve the continuation of the sales, R. W. Greeff & Co. Ltd., who act as sole distributor for the United Kingdom, Ireland, Australia and New Zealand shall continue in this or a similar capacity for the British company. In view of your remarks regarding this matter I add, that in case the efficiency of R. W. Greeff should not be satisfactory, the Board of the new company must be free to make other arrangements in the interest of the British company.

The British Company to have the right to draw their requirements of raw materials from Imperial Chemical Industries Ltd. and Imperial Smelting Corporation on most favoured customers' terms.

For reasons verbally explained, the conditions of delivery of sulphuric acid and Bariumsulphide or Barytes should be agreed upon separately, before or at the time a co-operation is to be definitely decided upon.

Exhibit 112

Each party to vote at General Meetings and to be represented on the Board of the Company in proportion to its shareholding.

I wish to add further that in case it should be considered desirable that Goodlass Wall and Associated Lead Industries Ltd. should be associated with the British company as shareholder, this will be agreeable to the National Lead Company, and an arrangement will then of course have to be made with them based on the same principles as above outlined.

If the above principles are acceptable to the parties concerned, and when the same are accepted, I shall be glad to follow your suggestion and in co-operation with representatives of the companies undertake a study to establish an estimate of the cost of production and the erection of a factory in England.

If the result is satisfactory, agreements in detail are to be prepared.

As to the final plans for the factory to be made when co-operation is finally decided upon, we shall look forward with interest to follow your suggestion of co-operating with the organisations of the interested parties in the manner you suggested for the purpose of establishing the best possible plans for the factory and of finding the most suitable location for the manufacture.

Yours very truly

A. JEBSEN

Exhibit 113

No. 7. Received May 11/32

GJ/AK

..... Paris, April 29th 1932.

Edward J. Cornish, Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

I returned from London at the end of last week, after having had various conversations there, with I.C.I., I.S.C. and Goodlass Wall & Lead Ind., and beg herewith to give a statement of the situation as I see it.

I.C.I. is seriously contemplating to take an interest in Titanium together with Lithopone and Zinc Oxide, considering that there is an opportunity at the present to arrange these industries so that they may develop on the basis of their merits without cutting each other's throat, and thus secure profits to all of them, and being of the opinion that each will have a place of its own and compete with each other in certain sections of the market.

It may be that I.C.I. also will consider Titanium alone, if they do not get together with I.S.C. in Lithopone and Zinc Oxide, but this has not been their starting point of view.

In this connection, I would mention that they have been experimenting with Titanium, but do not seem to have reached a basis by which they feel confident as to their calculation of possible cost.

Their interest in Titanium is probably also caused by its possible use in connection with various of their manufactured articles like Glyptal Resin and others. They have during last winter propagated formulas for paints, recommending the use of Titanium. It seems also that they seeuses for it in other industries, with which they are more or less connected.

The result of my conversation with Major Barley of I.C.I. in the presence of L.B.R., followed later by a meeting where also W.S.R., Mr. Clive Cookson and Mr. Tasker were present, is laid down in a letter to Major Barley, copy of which is enclosed and of which copies also have been sent to W.S.R. and G.W. & L. Ind.

At this last meeting W.S.R. criticised our proposal re the formation of a company, from the point of view that a compensation of £125,000 for our present business will represent ¼ of the interests in this industry for eternity, and he did not like that his part in the business should cost £1.- per share, whereas the price for ours in reality would be 10/- cash. He suggested that the compensation should be given in 6% limited preference shares—cumulative from the day the factory started its operations, which he reckoned to take 30 months in England (he may have included in this the first year of operations). The ordinary shares to be issued against cash. He did not express himself as to the division of the ordinary shares. Later he declared that he was willing to take a 17 to 25% interest.

Major Barley of I.C.I. had hoped that we all would enter the Company on the basis of only cash.

Mr. Cookson and Mr. Tasker talked about their patents and National Pigment Co's patents, which did not seem to interest anybody else much, except that W.S.R. seemed

inclined to buy them out against a small sum, in order to get rid of a possible nucleus of competition.

W.S.R. expressed rather strongly the view, that 51% of the Company should be in British hands, and felt confident that this would be accepted by the National Lead Company—on the basis of his experience with you.

I have not given up definitely the 50-50% proposition, but asked them what reasons they have for their point of view, mentioning that I thought National Lead Co. would not insist upon 50% if they had good reasons for 51-49%.

It seems that it is chiefly a matter of national feeling and pride.

We may have to give in in this question, which from your letters I understand will be accepted by you, but I believe a discussion of the reasons will be somewhat useful with regard to the future.

I did not enter into any discussion of W.S.R.'s comments on our proposal, but suggested that the three companies should all consider the matter and make us a proposal.

Before that meeting Mr. Robinson was informed about our present profits on the business in the British Empire, but not the others. I afterwards informed Major Barley of the same, which seemed to impress him considerably. The figures were:

Net profits on the present business in the British Empire after deduction of commission and publicity expenses.

Profit 1931

1°—based on average of production price plus general expenses in Leverkusen (incl. research) and large stock per 1/1-1931 $44.000.-

2°—based on production price
plus general expense in 1931 "53.600.-

Calculated profit in 1932

based on present sales prices and sales
in ratio to the first 3 months—
and expected production price
plus general expense

Sales: 375 t. TiO2 *Profit:* £18.400 = gold £14.350.
250 t. Extra T
1363 t. Standard T

He thought this information adds considerable strength to our claim of compensation, etc.

I have been somewhat hesitant to give this information before I new more about their attitude towards us.

I have the impression that it is not the intention of the I.C.I. to start a competition with us in case we do not come together, as they have their hands otherwise full up and will hesitate to make a fight—the matter not being of sufficient interest to them in such case, at the present. I believe, though, that, as time goes on, their interest in Titanium will be increasing, and therefore it would be wise to have an arrangement with them and their assistance already now, as they presumably can assist considerably in the development of the uses of Titanium.

With regard to G.W. & Lead and., I do not feel so certain that they will not try to develop a production on the basis of the National Pigments Co.—if they do not come together with us—although they no doubt will hesi-

tate before doing so. I believe they feel that they do not know much about production and costs of Titanium. Mr. Tasker expressed to me that they considered they should take up Titanium, but felt the situation was difficult, in view of the National Lead Company having not shown any reaction to their suggestions (or proposals).

Major Barley and I were not much inclined to bring G.W. & L. Ind. into discussion at the present stage, but this was more or less forced upon us by W.S.R. (We thought it was better to take up the matter with them later, as they presumably would have to accept the basis we agreed upon, anyhow.) From my conversations with his son and previous comments of W.S.R. regarding G.W. & L. Ind's management and their ability to compete, this was an unexpected change of W.S.R.'s attitude regarding this firm; it seems to have been the result of a conversation between him and Mr. Clive Cookson and Mr. Tasker.

The deciding influence regarding the conditions of an arrangement will rest with I.C.I., if they go in.

W.S.R. will, I believe, not like then to be left out in view of his interests in Lithopone and Zinc Oxide, even if Robinson and I.C.I. should not come together in this matter.

Re Sulphuric Acid.

Major Barley has based his calculations on 45/- per ton of 78% acid. Expressing my view on this price, he seemed first inclined to think that a reduction could be made, but at a later meeting he thought we would have to pay 45/-. He brought me together with a Mr. Wallis of I.C.I., who seemed to take care of their sulphuric acid interests. Mr. Wallis argued strongly for this price being reasonable, and

pointed out that the Metallurgical and Chemical Co. in Runcorn, who had put up a very modern factory, was selling at the same price, without employing their factory at full capacity, and [illegible] evidently not found it to their account to try to develop the market with lower prices. They had now an arrangement with the other sulphuric acid manufacturers. This factory is owned by a very rich and independent group. I suggested that there may have been other reasons for this result, but Mr. Wallis assured me that it was due to their production costs.

Major Barley said openly that we would have to meet the united policy of I.S.C. and I.C.I. with regard to sulphuric acid.

Asking me regarding Robinson's idea as to sulphuric acid, I mentioned the principle of the proposal worked out by L.B.R. and myself, according to which the sulphpric acid price should be based on a low basic price and a part of the profit calculated on the profit on pure Ti02. This idea seemed to interest him.

I presume it will be very difficult to break the convention regarding sulphuric acid prices and get better conditions than most favoured customers. The I.C.I. will presumably never accept that we put up a factory of our own, but will probably meet us with a price which will correspond to what it will cost us if we make it ourselves,—either alone or in conjunction with somebody else,—in order to get a lower production cost resulting from a larger output. It may be then, that a price based on selfcost incl. depreciation but no interest, plus a part of the profit, will be a better arrangement.

I should appreciate if you will have time to send me your comments to this.

Exhibit 113

With regard to W.S.R.'s suggestion as to the compensation for our business and the capital structure of the Company, I shall be much obliged for your comments. It will probably not be the final proposition from the other parties, but it would be of great help, for my guidance, to have your opinion. From your letters I have the impression that in such case you would like to see us having 50% of the shares issued against cash. This will mean an obligation on our side to put up £187.500 cash, if and when £375.000 are required; I do not, though, definitely know whether you are prepared to do this. From our investigations hitherto it is likely that the means required for the start of the business will not be so much as foreseen by our proposal, but it seems advisable to make an arrangement by which the Company can call in sufficient means to make its development unhampered and not be obliged to go to all partners for consent as to the extension of the factory.

I must confess that W.S.R.'s proposal surprised me somewhat, as it is rare in my experience to see goodwill compensated by preference shares. It may be a desire on his part, not to engage himself with too much cash.

You will note from my letter to Major Barley the program laid down for the further negotiations.

Major Barley was very desirous of discussing the possible cost of the production and erection of the factory. I was, though, not inclined to do this before his Company had agreed to the main principles, as such a discussion would involve a lot of detailed information to be given to him. He did not hide that his calculations had shown a nice profit, but that he did not feel that he could trust them.

I have the impression that Major Barley does not consider the National Pigments Co's patents and position to be of any interest and, on Mr. Clive Cookson's question as

to Blumenfeld, he answered that they had no trade in the British Empire. He said that Dupont had a factory based on Blumenfeld and also Montecatini; Dupont, however, was not interested to erect a factory in the British Empire. He was interested in the information that Dupont and National Lead Company were good friends, and I have the idea that he may ask Dupont's point of view before I.C.I. takes a standpoint. This may lead to some complications, in view of Dupont's desire to make an arrangement with you for U.S.A. and the difficulty there is in doing so, without an arrangement also on this side. — I just mention this, in case you should hear anything from Dupont.

Major Barley expressed very definitely that a Company formed with National Lead Co., I.C.I. and I.S.C. as partners, in his opinion, would leave no chances for National Pigments Co. or Blumenfeld, and you will know from my previous letters, that this seems very likely also to me.

Looking forward to hear from you, I am, with kindest regards,

Yours very truly,

G. JEBSEN

P.S.—It will interest you that the factory in Leverkusen produced:

		Prod. cost per 100 Kg. excl. packing & general expense
January	211 t. TiO2 at	M. 74.52
February	271 t. " "	" 69.65
March	400 t. " "	not established yet.

Last year the production costs were: M. 95.34.

P.P.S.—For the sake of order, I enclose copies of my letters of today to Goodlass Wall & Lead Industries, and Mr. L.B. Robinson.

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Exhibit 114

COPY

Wm. S. Robinson

95 Gresham Street
London E. C.2

2nd May 1932.

Dr. G. Jebsen
26 Rue de la Pépinière
PARIS
France

Dear Dr. Jebsen,

I have read through the copy of the letter you have addressed to Major Barley and the A.L.M. following the conversations that took place here in London, and I would just like to repeat that I do not think the proposals for the capital structure of the proposed company will be found acceptable by our friends.

In determining what might prove to be so, one must bear in mind that nothwithstanding our repeated advice to establish some form of works in this country, you have not done so. You are therefore today facing the certainty of competition unless an agreement is made with your most likely competitors. The latter, we are bound to say, are not likely to accept any proposal which did not give *cash capital* a *first* charge on profits.

We are inclined to think that their views will be towards something on the following lines—

The Company to be formed with a capital of £500.000, divided as follows:

"A" Shares—375.000 for cash

"B" Shares—125.000, issued as fully paid to the N. L. Group for patents, Trade mark, good-will etc.

The profits, after amortization and reserves, to be divided—

1. In paying 7% on cash capital—"A" Shares.
2. Balance to be divided—25% to "B" Shares
   75% to "A" Shares.

I have not discussed this in any way with our mutual friends, and we believe that the business is one primarily affecting the National Lead Company and yourself.

Best regards,

Yours sincerely,
W.S. ROBINSON (sign.)

Exhibit 115

No. 11. Received May 20/32

GJ/AK

..... Paris, May 10th 1932.

Edward J. Cornish Esq.
President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

Referring to my letter No. 7, I beg to add the following information:

In my first meeting with Major Barley, he had objections to our proposal that R.W. Greeff & Co should have the sales, and asked if this should be for ever. I pointed out that the National Lead Company wanted R.W. Greeff & Co as sales organisation, in order to preserve the continuity of the sales work, and I considered this condition prompted by the desire to have the sales developed as well as possible. Major Barley thought I.C.I.'s organisation could do better than R.W. Greeff & Co in the dominions and the colonies, and also with regard to certain industries where they have special influence. This is quite likely, and I did not think we should object to I.C.I. doing the sales in such cases. (R.W. Greeff & Co have the sales at present for the United Kingdom and Ireland, Australia and New Zealand. In South Africa, India, Egypt and other places, we work through other agents and connections.)

In the meeting with Mr. Clive Cookson and Mr. Tasker, Mr. Tasker also objected to R.W. Greeff & Co. Major Barley there expressed his satisfaction with the explana-

tion I had given him as to R.W. Greeff & Co continuing the sales.

These are the reasons for my corresponding remark on page 6 of my letter of April 27th to Major Barley.

From my last conversation with Major Barley alone, the following may be of interest:

We talked about the competition between Lithopone and Titanium, and I expressed your view in this respect. Major Barley very strongly assur[illegible]e, that their principle was, never to stand in the way [illegible] progress. They would be interested to develop ta[illegible] ongly, but price-cutting competition should not be allowed. Wishing to have this more clearly defined, I asked if he meant, that for instance it would be reasonable to make a price for Titanium White, which in relation to production price, gave the same profit as Lithopone in relation to its production price, and further, that, in case the production price of Titanium being relatively high because of a smaller outlet, the price to be fixed to stand in ratio to the production price to be expected when a larger production was reached. He accepted this as a reasonable way to look at it.

If our reasons for R.W. Greeff & Co as sales organisation were fear of the Lithopone interests, he thought we need not to fear this. I told him, I considered our standpoint was prompted, as mentioned, by the desire to see the sales develop in the best way. Major Barley mentioned, that they for instance had been developing a new method of making linoleum, which they will give to the linoleum manufacturers and alter their industry, and they might in that connection be able to create a large outlet for Titanium, which it would take us considerably more time to open up. I agreed to his point of view there.

I asked him if his remark, that the Titanium is linked up with Lithopone and Zinc Oxide, was to be understood so, that if they did not agree to W.S.R.'s proposal re these last, they would not be interested in Titanium. He thought he could not answer this at present. I.C.I. was looking over various industries at present, in groups, and they considered them in groups. It may be that they would also consider Titanium separately. It would be, though, a comparatively small thing to them then. I told him I would like to see I.C.I. take an interest anyhow in the Titanium industry, as it is a chemical process in their line.

Major Barley thought they could be of much assistance to us in the development. I showed some diffidence in accepting this view, as I considered the development of the manufacturing part would be done by the company's own organisation, and the advantage to the Titanium Industry of I.C.I.'s experience generally would much depend upon the chemists I.C.I. put in, and their ability to make this experience available to us, but anyhow I felt that we were more or less of the same family.

Talking of the 50-50% or 49-51% interests, I repeated some of my previously mentioned arguments, and added that it might well be that W.S. Robinson was right in his view that the National Lead Company would not insist upon 50% if there were good reasons for the British interests having 51%, and therefore I had asked him in the first interview, if he had any reasons for asking this. Major Barley told me, that generally they wanted that the British interests should have 51%, as a principle. They had a company together with Dupont in England, in which Dupont had 49%, and it was working very well. They had another company on the basis of 50-50%, which did not

work so well; they were then obliged to put up a lot of details for consideration with their partner, delaying decisions, etc.

Later the same afternoon, I saw L.B.R. and mentioned to him my remarks to Major Barley, concerning your possible point of view as to 49 or 50% interest in the company, asking him to mention this to W.S.R.

I asked him, when leaving, whether the linking up of Titanium with Lithopone and Zinc Oxide was such, that it could lead to I.C.I. considering only all three, or if they might take interest in one and not in the other. He first thought they would have to take the stones with the plums, and not only pick out the plums. This has been said in connection with the question of Lithopone and Zinc Oxide. He did not know his father's point of view as to Titanium, but anyhow they were not partners in Titanium yet.

With kindest regards,

Yours very truly,

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Exhibit 116

COPY

May 14, 1932.

Dr. G. Jebsen
Societé Industrielle du Titane
24 Rue de la Papiniere
Paris, France.

Dear Dr. Jebsen:

In the absence of Mr. Cornish we called the Executive Committee together yesterday and as a result of their deliberations we cabled you as per enclosed copy, which I trust is perfectly clear to you.

There is one other point I think is necessary to emphasize. In your letter of April 27th to Major L. J. Barley of the Imperial Chemical Industries Limited, copy of which you also sent to the Associated Lead and to Mr. Robinson, you specify the division of the capital, on the last item, as National Lead Company or its subsidiary £125,000 for compensation for patents, trade mark and good-will. This is not strictly a true statement of what the £125,000 is being paid for. This amount is being paid to the National Lead Company or its subsidiary for its established business in Great Britain, for its trade marks, good-will and technical knowledge which will be given the new company to enable them to start off without all the trouble that we have had in the past.

We think it is absolutely essential for them to thoroughly understand that we are asking nothing for the patents. Unless this is thoroughly understood by them you will have the A.L.M. and National Pigments people, if

taken in, making a demand for payments for their patents which must be avoided as our laboratory people attach no importance to these patents whatever.

I would therefore suggest that you write Major Barley and send copies of your letter to both Mr. Robinson and the A. L. M. people, correcting this particular statement. You will readily understand how vitally important this will be in your future negotiations.

Yours very truly,

Vice President.

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Exhibit 117

Letterhead of

LONDON HOUSE

3, New London Street,
London, E.C.3

10th. June, 1932.

Ref.—HST/ML.

W.C. Beschorman, Esq.
New York.

Dear Mr. Beschorman,

I want to let you know the present position with regard to Titanium.

The result of the correspondence which has taken place, and of discussions which followed, was that it seemed best that, if possible, we should work along with the National Smelting Company and Imperial Chemical Industries, in endeavouring to bring about a working arrangement with your goodselves, and it was our hope that we might be able, through this association, to bring into such a group the two patent positions in which we were involved. Negotiations were proceeding, as you know, with this general end in view.

You will remember that so far as National Titanium Pigments Limited were concerned, we had arranged to have an option over their position for a six months' period. We had kept them fully advised of the position, and, to the best of our belief, they were completely satisfied with the line of action that was being followed, but, somewhat to our surprise, immediately on the expiry of the option period, they

advised us that they had made an arrangement with Messrs. Laporte, of Luton, who are manufacturers of Blanc Fixe, for the establishment with them of a plant.

It will not, therefore, be possible to get hold of this outfit—at any rate for the time being.

I have seen Dr. Jebsen this morning, on the eve of his sailing for New York, and he will be able to give you further particulars of the position.

I think it is advisable that if arrangements are made for manufacture by a more influential group, a definite move, which would be known about in the trade, should be made at an early date.

With kind regards,

I am,

Your sincerely,

H. J. TASKER.

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Exhibit 118

NATIONAL LEAD COMPANY
111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

June 25, 1932.

Week End Letter

CARTVAN
LONDON

IN CONVERSATION WITH DOCTOR JEBSEN I UNDERSTAND THERE IS A DIFFERENCE OF OPINION AS TO RE AMOUNT OF CAPITAL THAT WOULD BE REQUIRED TO CONSTRUCT A PLAN AND FURNISH IT WITH SUFFICIENT WORKING CAPITAL STOP .THEREFORE PROPOSE FORM COMPANY AT ONCE STOP NECESSARY CAPTAL FOR CONSRUCTING WORKS, EQUIPMENT AND WORKING CAPITAL TO BE DETERMINED BY MUTUAL STUDY TO BE ADVANCED IN CASH TWO THIRDS BY ENGLISH ASSOCIATES AND ONE THIRD BY US STOP TO BE REPRESENTED BY FIRST PREFERRED STOCK SEVEN PERCENT CUMULATIVE STOP A SECOND PREFERRED SIX PERCENT CUMULATIVE STOCK OF £125,000 to be given US IN PAYMENT FOR TECHNICAL KNOWLEDGE OUR PRESENT ENGLISH BUSINESS PATENTS AND GOOD WILL STOP A THIRD ORDINARY STOCK IN SUCH AMOUNT AS MUTUALLY ACCEPTABLE TO BE ISSUED FORTY NINE PER CENT TO US AND FIFTY ONE PERCENT TO ENGLISH ASSOCIATES STOP 50TH FIRST AND SECOND

PREFERRED TO HAVE NO VOTING POWER UNLESS AFTER THREE YEARS FROM DATE ISSUED DIVIDENDS ARE NOT EARNED AND PAID STOP LOCATION OF PLANT AND OTHER DETAILS TO BE DETERMINED TO MUTUAL SATISFACTION AFTER PROPOSITION ACCEPTED IN PRINCIPLE STOP UNTIL ENGLISH PLANT IS PRODUCING PRODUCT TO BE SUPPLIED FROM LEVERKUSEN AT COST STOP THERE IS NO DOUBT BUT THAT TITANIUM PIGMENTS CAN BE MANUFACTURED AT LEVERKUSEN AT LESS COST THAN IN ANY OTHER PLACE IN EUROPE STOP UNDER OUR CONTRACT WITH THE I. G. COMPANY THEY HAVE TO BE FURNISHED TO US AT COST AT ALL POINTS OUTSIDE OF THE TERRITORY ALLOTTED TO THE I. G. STOP IT IS FUNDAMENTALLY UNWISE TO CONSTRUCT A PLANT UNLESS IT BECOMES NECESSARY TO DO SO BECAUSE OF THE PROTECTIVE POLICY OF ENGLAND AT THIS TIME STOP IT IS QUITE POSSIBLE THAT WHEN WE COME TO CONSIDER THE MATTER OF PLANT WE MAY CONCLUDE ON A MUCH LESSER EXPENDITURE THAN WE ARE MAKING FOR INSTANCE IN NEW JERSEY AT THIS TIME BUT I AM CONTENT THAT THE ARGUMENTS FOR AND AGAINST THIS SHOULD BE CONSIDERED BY ALL WHO ARE WITH US IN THE ENTERPRISE AND DETERMINED BY MUTUAL CONSENT WHEN WE HAVE AGREED IN PRINCIPLE ON THE AMOUNT THAT IS TO BE PAID TO US STOP I ALSO SEE THE JUSTICE OF MAKING

THE CASH CONTRIBUTED TO THE ENTERPRISE THE FIRST CHARGE UPON THE EARNINGS OF THE COMPANY STOP IF WE REPRESENT THAT OUR TECHNICAL KNOWLEDGE PRESENT BUSINESS PATENTS AND GOOD WILL GENERALLY TOGETHER WITH AN OBLIGATION TO GIVE TO THE COMPANY WHEN FORMED THE ADVANTAGE OF ANY NEW IDEAS WE DEVELOP WHETHER IN THE UNITED STATES GERMANY OR ELSEWHERE IS WORTH £125,000 THEN WE SHOULD CONCEDE THAT THE CASH CAPITAL ADVANCED SHOULD HAVE A FIRST CHARGE SO THAT IT WOULD HAVE NOT ONLY THE BUILDINGS AND EQUIPMENT, BUT ALSO OUR GOOD WILL AS SECURITY FOR THE PAYMENT OF A FIXED DIVIDEND ON SUCH STOCK STOP THAT SEEMS TO ME TO BE A JUST DEMAND WHICH WE SHOULD CONCEDE STOP A FIRST PREFERRED CUMULATIVE SEVEN PERCENT DIVIDEND SEEMS TO ME TO BE A WELL SECURED INVESTMENT FOR THE CASH THAT IS PUT IN IT AT A HIGH RATE OF INTEREST STOP REGARDING THE PAYMENT OF £125,000 TO US FOR OUR GOOD WILL, ETC., I CAN ONLY SAY THAT OUR TECHNICAL KNOWLEDGE HAS BEEN VERY COSTLY RESULTING IN OUR HAVING OVER SIX MILLION DOLLARS INVESTED IN THE MANUFACTURE OF TITANIUM PIGMENTS INVOLVING LOSSES OF OVER TWO MILLION DOLLARS BEFORE THEY BEGAN TO PAY STOP I AM INFORMED THAT TWO OF THE BEST REPUTED ACCOUNTANTS OF GREAT BRITAIN

(ONE SUGGESTED BY YOU) HAVE PLACED £125,000 AS THE FAIR VALUE OF THE BUSINESS THAT WE HAVE BEEN DOING IN GREAT BRITAIN STOP THEREFORE IT SEEMS TO ME TO BE FAIR THAT WE SHOULD BE PAID FOR THAT IN A SECOND PREFERRED STOCK DRAWING SIX PERCENT CUMULATIVE DIVIDENDS STOP THIS WOULD NOT INVOLVE ANY MONEY ON THE PART OF THOSE WHO CONTRIBUTED TO THE FIRST PREFERRED STOP THEY WOULD HAVE TO BE PAID IN FULL BEFORE WE WOULD GET ANYTHING ON OUR STOCK STOP OUR PRESENT BUSINESS IN ENGLAND IS MORE THAN SUFFICIENT IN PROFITS TO PAY THE SIX PERCENT DIVIDEND ON THE £125,000, stop but manifestly by making this a SECOND PREFERRED STOCK THOSE PROFITS WOULD BE APPLIED FIRST TO THE DIVIDENDS ON THE FIRST PREFERRED STOCK BEFORE WE RECEIVE ANYTHING STOP THE COMMON OR ORDINARY SHARES WOULD OF COURSE CONTROL THE BUSINESS STOP THEY WOULD REQUIRE NO MONEY AND WOULD BE WORTH WHATSOEVER THE EARNINGS (after paying DIVIDENDS ON THE FIRST AND SECOND PREFERRED) SHOULD BE CAPITALIZED AT STOP THE CONCESSION THAT WE WOULD ACCEPT FORTY NINE PERCENT AND GIVE TO THE BRITISH ASSOCIATES FIFTY ONE PERCENT WOULD GIVE TO THE CITIZENS OF GREAT BRITAIN CONTROL WHICH MIGHT BE VALUABLE BECAUSE OF THE LAWS OF GREAT BRITAIN OR OF ANY

OF THE COLONIES THAT MAY ENTER INTO RECIPROCAL ARRANGEMENTS WITH GREAT BRITAIN STOP THE SUGGESTION THAT THE PREFERRED STOCK SHOULD HAVE NO VOTING POWER UNLESS DIVIDENDS WERE NOT PAID AFTER THREE YEARS OF OPERATION WAS DESIGNED TO SECURE TO THE PREFERRED STOCKHOLDERS THE RIGHT TO ASSERT CONTROL IN THE COMPANY IF ITS DIVIDENDS WERE NOT PAID STOP ALL THE OTHER DETAILS REGARDING LOCATION, CONTRACTS FOR SULPHURIC ACID, CONTRACTS FOR POWER, LIMITATION OF TERRITORY AND SO FORTH I THINK CAN WELL BE DEFERRED UNTIL WE HAVE AGREED IN PRINCIPLE ON WHAT HAS GONE BEFORE AND CAN MEET THE PEOPLE JOINTLY ASSOCIATED WITH ARGUMENTS THAT APPEAL ONLY TO THE WELFARE OF OUR ORGANIZATION INSTEAD OF AFFECTING THE WELFARE OF THEIR OWN SEPARATE ORGANIZATION STOP IF PROPOSITION IS NOT SATISFACTORY TO PROPOSED ENGLISH ASSOCIATE PLEASE CONSIDER IF YOU WOULD LIKE TO JOIN US AND TO WHAT EXTENT

CORNISH

Exhibit 119

IMPERIAL SMELTING CORPORATION LIMITED

96, Gresham Street,
London, E. C. 2

The Savoy-Plaza Hotel,
New York, N. Y.
July 16, 1932.

Edward Cornish, Esq., President
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Cornish:

I have to advise you that the Imperial Chemical Industries, Goodlass Wall and Associated Lead, and the Imperial Smelting Corporation are prepared to accept the proposals in your cable to me of 25th June with the following modifications—

1. The necessary capital for constructing works, equipment and working capital to be found in 7% cumulative First Preference stock,—

   51% by the British interests
   49% by National Lead

2. After payment of 6% on the £125,000. of Second Preferred stock alloted to you, the profits to be divided thus—

   51% to the British interests, and
   49% to the American interests.

Exhibit 119

3. The new company to take over your British Empire business, patents and goodwill—not "English" only as stated in your cable.

4. Immediate maximum commitment of British group to be limited to 51% of £10,000., capital for further investment to depend on result of technical and market study, and satisfaction of Imperial Chemical Industries' accountant with the valuation of present profits of the business National Lead is to hand over.

The Imperial Chemical Industries state that it is very desirable to eliminate competition in the relatively small British market, and subject to your concurrence, they will do this by offering a small participation to the Blumenthal people, who are desirous of entering the business.

I trust the proposals set out herein will be satisfactory to you.

With best personal regards.

Yours sincerely,

W. S. ROBINSON

Exhibit 120

COPY

July 20, 1932.

Mr. W. S. Robinson
Chateau Laurier
Ottawa, Canada

Dear Mr. Robinson:

I have your letter of the 16th instant.

The first modification, requiring the National Lead Company to advance 49% of the cash required to construct necessary works in England, to be represented by 7% cumulative First Preferred stock, is quite satisfactory.

The second modification, which I presume contemplates an issue of Common stock which is subject to the First and Second Preferred stock, is also satisfactory to us.

The third modification could not be made to apply to Canada but could be made to apply to all of the rest of the British Empire. This is because the American company has the exclusive rights in Canada, whereas the European company would not be able to transfer any rights in Canada whatsoever, although the National Lead Company has the controlling interest in both companies. The other stockholders differ in the two companies; Dr. Jebsen holding a minority interest in the European company and none in the American company, and some stockholders owning stock in the American company and none in the European.

Inasmuch as our sales department is thoroughly organized in Canada and negotiations have been pending with other Canadian interests to manufacture in Canada, and we have $550,000 par value of Canadian gold bonds with which to build the plant (if necessary) in Canada, I think

Exhibit 120

probably this feature will adjust itself by letting our Canadian company, instead of building a plant, buy from the American company or the new plant to be constructed in England, whichever may prove to be more advantageous to it; but itself to keep control of its own sales, that are already well organized far beyond anything we have in England proper. For the time being, therefore, the Canadian business should be excluded from consideration.

Referring to Paragraph 4. of your modifications. I assume that the £10,000 is deemed sufficient to provide immediate requirements for working capital, with the English company acquiring its goods from the I. G. at cost and paying the necessary expenses of selling etc., until such time as we can determine, in consultation with the Imperial Chemical Industries, yourself and others immediately associated with us, the location of the plant, its probable cost and the amount of cash required for its construction and ultimate working capital. If it means a further discussion as to the value of what we are putting in at £125,000, I suggest that the Imperial Chemical Industries satisfy themselves as to that point before we attempt to get together on further details, as I desire that matter not to be the subject of negotiations with any man whom we send over to Europe.

It would be satisfactory to the National Lead Company for you to invite the Blumenfeld interest, or any other interest that you desire, to join in the enterprise.

Dr. Jebsen left for Paris on the "Aquitania" last Saturday.

Sincerely yours,

(Signed) E. J. CORNISH
President.

Exhibit 121

August 12, 1932.

Mr. J. S. Robinson
S. S. Bremen
58th Street
Brooklyn, N. Y.

Dear Mr. Robinson:

As requested yesterday at our conference, I am enclosing you memorandum showing Blumenfeld's position in the world markets.

Trusting you will have a pleasant voyage and with kindest regards,

Yours very truly,

Vice President.

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August 12, 1932.

Memorandum for Mr. W. S. Robinson re Blumenfeld position.

Blumenfeld sold the North American rights to Commercial Pigments Company originally for part cash and royalty; the royalty has since been computed on to a cash basis and purchased by the Commercial Pigments Company so that Blumenfeld has no income from the North American rights.

They were also given an option on the British rights, and consequently before Blumenfeld could sell or transfer his British rights to any one he would have to offer them to the Commercial Pigments Company on the same basis as the suggested transfer.

Blumenfeld's French rights are held by Thann & Mulhouse, terms unknown.

The Italian rights were sold to Montecatini for one-half common stock interest in the plant, with restrictions not to ship out of Italy without Blumenfeld's permission. Montecatini has since obtained Blumenfeld's permission to ship into Great Britain, and we understand ships somewhere between 300 and 400 tons of pure TiO_2 per annum. We understand that this stock has never paid a dividend.

The rights for Germany, Switzerland, Spain, Portugal, China and Japan were sold to Aussig, on what terms we do not know. Our best information is that Aussig's production is approximately 300 tons of pure Titanium oxide per annum.

We further understand that on all of these contracts both parties to each contract are required to post the other party on all improvements developed, and give the other party the right to use said improvements. It is for this reason that I felt that it would be dangerous to take Blumenfeld into the English company.

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Exhibit 122

The Park Lane Hotel
Piccadilly
London W.

10th November 1932

Mr. E. J. Cornish, President
National Lead Co.
111 Broadway, New York

Dear Mr. Cornish:

I am enclosing a copy of a letter from Mr. Tasker dated November 1st which I received on November 8th with reference to Klein/Brown patents. I am also enclosing a copy of my reply to Mr. Tasker's letter. Mr. Tasker has sent copies of this letter to all of our partners.

Neither Dr. Jebsen nor I know anything of any "preliminary discussions" to which Mr. Tasker refers. These discussions may have taken place with Mr. Robinson. I have not previously heard of anything nor seen the letter from Mr. Cookson to Mr. Robinson dated September 26th referred to in his letter. I have since obtained copy of this letter from Mr. Robinson and am enclosing it herein. In my acknowledgment to Mr. Tasker I merely stated that I am sending this letter on to you without any further comment. I did the same thing with Mr. Cooksons letter in which he also referred to the Klein/Brown patents. Unless I receive definite instructions from you to discuss this matter further I will not do so. My own feeling, however, is that payment of shares amounting to £125,000 which we receive for our business, goodwill, technical assistance and

so forth did not nearly cover its actual value as can be readily seen from the report from Thomson McLintock & Co. The offset to what we put in was the goodwill value brought in by our partners which in the case of I.C.I. and I.S.C. was very substantial. *In the case of Goodlass Wall I imagined that one of the* considerations in bringing them in was to eliminate any friction with the Klein/Brown patents, without any payments whatever other than the privilege of subscribing to stock in the new company at par. Why don't they give a portion of their shares at par to Brown & Klein and satisfy them in that way?

In order to give you a complete picture of this question I communicated with Major Barley since his name was mentioned in connection with the Hopkin & Williams (Travancore) Ltd. and obtained from him a copy of the letter which he wrote to Mr. Tasker on November 8th in reply to Mr. Tasker's letter.

This matter will probably come up at one of the early meetings of the Board of Directors of the new company and they will obviously wish to have your opinion or any suggestions you wish to make in this connection.

The contracts and agreements have all now been tentatively drawn and will be sent out to the various parties on Friday the 11th November. We are still awaiting your decision with reference to the reservation made by I.C.I. as to licensed field and your decision will involve some changes throughout the various agreements, but we are hoping to put them into effect as soon as possible upon receipt of word from you.

Mr. L. B. Robinson, Dr. Jebsen and myself, together with the attorneys are having a final meeting this afternoon after which the completed drafts of the contracts will be sent out to our other partners who will then submit them

to their legal departments. Some time next week we will have a meeting of all the partners to discuss any suggestions or possible changes and I am hoping that by the end of next week we will have the final drafts of the completed contracts and documents and that I will be ready to return. Dr. Jebsen feels that I am too optimistic in that respect but I feel that subject to any unusual snag coming up I shall be able to follow these plans.

Most cordial regards

Sincerely yours

H. T. Warshow,

P. S. Jebsen received your cable today, Nov. 10th, and will probably decide to go to Cologne to get the approval of the I.G. to this contract in advance. W. S. Robinson leaves for Australia Tuesday. L. B. Robinson goes to Paris next week for several days. It may be *three* weeks or perhaps even longer before the *actual* agreements are in final shape for me to take back. Furthermore, everything is settled except the license field, on which point Jebsen is in complete charge. I am perfectly willing to follow your wishes, but I believe I should be back in my office immediately. If you have no objections, I should like to return immediately with the contract, as it is at present, and have Jebsen send on licensed field later. If you approve, will you be good enough to cable me *immediately* upon receipt of this letter.

H. T. W.

Exhibit 123

Letterhead of

TITAN CO. A/S

GJ/KL October 19, 1927.

Confidential

Mr. Evans McCarty,
Vice-President,
National Lead Company,
New York.

Dear Mr. McCarty,

I enclose copies of two letters, of April 28th and August 12th this year regarding Mr. Chase, which Dr. Raspe has given me.

Dr. Raspe asked me to leave out the names, for the purpose of discretion, as he did not want to risk that the I. G. should come into an inconvenient situation by these letters', through coincidence, coming into other hands. Consequently, I have only put in the initial letter of each name, which I presume is sufficient to you with the information you already have received; and trust you will take due regard to Dr. Raspe's anxiety.

Yours very truly,

G. JEBSEN

Enclosures:
Copies of letters.

Exhibit 123

R1.

Albert,
80 William Street,
NEW YORK. April 28, 1927.

You will note from my letter of to-day that Mr. C. is again departing for Europe on April 30th. Regarding titanium oxide. He was unable to get to Frankfurt on his last trip, and I also doubt whether he'll be able to get there on this trip. He expects to be gone but one month.

I understand he concluded, or is concluding, a very fine (and important) deal with European interests on titanium oxide patents. His work has interested and occupied him to such an extent that he has been forced to turn over to his partner Col. W., his old and very lucrative Columbia account,—worth to him $15.000 to $25.000 a year. I cite this to indicate Mr. C. important attitude towards titanium.

Glidden Company (paints) came out recently with an announcement that it as arranging to go into the titanium oxide business on a big scale. (By the way, the Commercial Solvents Company seems to be mixed up in some important way with Mr. C. recent activities).

I have also recently read an announcement that the National Lead Company has bought up (or into) a Norwegian titanium producer.

Now I might be able to get Mr. C. ear when he returns anent your interest in titanium oxide. So if you care to, you may send me what data you have,—and explain briefly your position,—and I will feel Mr. C. out.

Sincerely yours,

R.

P.S. By the way,—other friends of mine are very anxious to get connected with a titanium oxide producer. They are important in the American paint industry.

A.-P.-R.

Exhibit 123

R.
New York. August 12, 1927.

Mr. H.
I. G. Farbenindustrie,
Frankfurt a.M., Germany.

Dear Mr. H.:

I beg to acknowledge receipt of your cablegramm as follows:

> "Please cable name of Firm backing C an his position in firm is it Titanium Pigment Company"

I had been on the point of sending you some additional information on this C. matter. Since writing you last, I have been informed that this C. Titanium syndicate has decided on *Baltimore* as the location for Titanium Oxide plant, and that is already planning the erection of a plant there. My informant expressed the opinion that Baltimore was decided upon as the location because of its accessibility to Titanium (barytes?) deposits in Virginia. Whether this was merely a guess on his part, or something which had been definitely told him by Mr. C., I do not know. He also thought that other reasons for locating the plant in Baltimore may have been due to the fact that it is a seaport and within cheap freight distance of the import eastern markets.

I have not seen Mr. C. in some three weeks. When I last saw him, he informed me definitely that he had organized and was the head of a syndikate composed of men who were heavily financially interested in the Commercial Solvents Corporation, but whom he, intimated, were acting as

individuals and not for the Commercial Solvents Corporation. He also gave me to understand, that this group was not organized into a company as yet, and had made no affiliation or combination with any industrial organization. A few days ago Mr. Silsby informed me that more recent information he had received indicated that there had been no change in the status of this group, or their relations with others, since my interview with Mr. C. of some weeks ago. (Should this letter be repetitious of my last letter to you, please note that in order to get this off in a hurry, I am writing it without access to the copy of my last letter to you, which is home in my private file.)

The Titanium Pigment Company is owned entirely or controlled by the National Lead Company, which is the controlling factor in the American white lead business.

Mr. C. gave me to understand, that his group were not connected with the National Lead Company; but expected to be indirect and definite opposition and competition to them. You will recall my having informed you that Mr. C. had made the statement that his crowd would control the American (and foreign?) Titanium Oxide situation because of their control of patents. He made this remark in direct reference to the National Lead Company's Titanium Pigment Company, and as an illustration of this group's weaker position relative to the position of his group. He intimated that regardless of the National Lead Company, his group would control the Titanium Oxide situation in America and that if the National Lead Company were fully alive to the situation, it would get out of the business, or attempt to make a deal with them.

It is general knowledge here that the National Lead Company has invested considerable money and is prepared to invest considerable more in the Titanium Pigment Com-

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pany and is going at the business in a very serious and earnest manner.

(In my letter of April 28th., I made reference to the National Lead Company having bought up the Norwegian Titanium Company. By National Lead Company, I meant the Titanium Pigment Company).

By a coincidence, I happened to see Mr. S. (of R. & H.) this morning, who again urged me to inform Mr. C. that his Company was ready to discuss a titanium affiliation with Mr. C.'s syndicate, and asked me to take the matter up with Mr. C. for him. I informed Mr. S. that it would be useless for any one to attempt to interest Mr. C. in a affiliation unless he had something else to offer besides money, as this group had all the capital behind it, it could use. The R. & H. people have nothing to offer except a keen desire to go into the business. Mr. S. also said that his company would be ready to put their almost inactive St. Albans, W. Va. plant into a combination. I have reason to believe, however, that even this would not make a proposal from R. & H. of any special interest to Mr. C.

I wish to confirm again, my previous advice to you that Mr. C. group is ready to make a corporate or other affiliation with any company having something of value to offer it,—such as good sales and propaganda, position or patents. I advise you to take this group very seriously. They will be a very important, if not the most important factor, in the American or world Titanium Oxide situation.

Our mutual friend, Mr. Litter, has been authorized by the oldest established and one of the best known white lead producers in the country, to act for it and attempt to make an affiliation between it and Mr. C. group. The assumption is that the repitation and name of this firm would help

introduce Titanium Oxide. This particular producer went so far as to offer to throw his entire business into a titanium oxide Company in return for stock participation and a reasonable amount of cash.

I am arranging to see Mr. C. next week on this particular proposal. If you, however, are interested in this angle, Mr. Litter instructs me to inform you he is ready to hold matters in abeyance until you have been given an opportunity to study this matter also.

I am holding off cabling you until later today in the hope that I may be able to locate Mr. C. or Mr. Silsby to as certain whether or not this syndicate has formed itself into a company.

Yours very truly,

sign. R.

APR:EJ.

P.S.:—Since dictating the above letter I have been informed that Mr. C. titanium oxide syndicate has not as yet been formed into a company or corporation. I was also definitely informed that this group is not the Titanium Pigment Company, or any connection with it. National Lead Company bought out this company about a year or two ago. Prior to then it appeared to have a status independent from the National Lead Company. Note enclosed advertisement.

"I cabled you as follows:—

"C. organized and heads syndicate men financially prominent in Commercial Solvents Corporation apparently acting as individuals and not yet incorpodated stop Syndicate is not connected with Titanium Pigment Company which is National Lead Company subsidiary".

Exhibit 124

November 4, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

I have your letter of October 19th with reference to the Blumenfeld Process as carried out in the Montecatini factory, and have sent copies of your letter to those of our people who are interested.

I have also your further letter of the same date enclosing copies of two letters addressed to the I. G., and referring to the activities of Mr. Chase. Mr. Chase, whom I have known for some years, lunched with me a short time ago, and gave me a complete account of the new enterprise which I presume was an accurate one.

He informed me that a company called the Commercial Pigment Company had been formed by a group of men who originally financed the Commercial Solvents Company, and had engaged him to investigate the subject of titanium and erect for them a factory in Baltimore for the production of titanium oxide. He mentioned the names of the several gentlemen connected with the enterprise some of whom I recognized. I did not, however, recognize the names of any of the R & H people so that I think they have no connection with the venture. The Glidden Company, I understand, hold an interest of about 10%.

Mr. Chase told me that a factory was under construction in Baltimore, and should be ready for operation about the first of the year. It is intended to use the Blumenfeld Process which Mr. Chase investigated carefully in Europe visiting the plants of Montecatini and others. He seemed

quite confident of the Process, and stated that the reason that those using the Process in Europe had been so long in getting their product on the market was that they had worked out every detail of the process carefully before attempting actual manufacturing operations. He stated that when he was in Europe Montecatini was producing about two tons of TiO_2 a day, but that they had a capacity for producing approximately ten tons.

He stated to me that the problems connected with the recovery of the iron as ferrous sulphate and of the concentration of the free acid had all been satisfactorily solved by various people in Europe who had been working with Blumenfeld.

The initial capacity of the Baltimore plant is stated to be ten tons of TiO_2 per day. It is my understanding that they do not at present contemplate the manufacture of composite pigments, but principally to sell their TiO_2 either pure or reduced by mechanical mixture of other materials.

I was further informed by Mr. Chase that his company had made a contract with Travancore Minerals, Ltd., for their supply of ilmenite. This statement has been confirmed by information given to us through European representatives of American railroads. We have reason to think that the Commercial Pigments Co., tried to obtain some ilmenite deposits in Virginia which the Titanium Pigment Co., acquired during the spring.

I asked Mr. Chase if his company were prepared for patent litigation, and he told me that their counsel had assured them that they were secure on that point. Mr. Chase went on to say, however, that he personally had no connection with the patents having been engaged simply as an engineer.

This is evidently a serious undertaking, and brings us face to face with a problem that will have to be dealt with as soon as the production of the company is on the market.

I cannot quite make up my mind whether Mr. Chase's object in telling me all this was to let me have first-hand instead of hearsay information, or whether he was building up a background for a proposal to sell the plant to us a little later on. We have no information that the Commercial Pigment Company is connected in any way with any of the American white lead manufacturers with the exception of the Glidden Company who manufacture white lead in a small way by a precipitation process.

If Mr. Chase's report of the European situation is correct you will have the Blumenfeld companies to deal with in Europe next year, and we will appreciate it if you will keep us informed of any developments that come to your knowledge.

Yours very truly,

McCarty
Vice President

Exhibit 125

Letterhead of

TITAN CO. A/S

GJ/AK

p.t. 23 Rue Ballu.
Paris, November 25th 1927.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City
U.S.A.

Dear Mr. McCarty,

Your favours of November 4th and 9th at hand.

I have noted with much interest the conversation with Mr. Chase.

Mr. Gilbert informs me that he is meeting offers of Mr. Blumenfeld's concern here rather often now. They ask a price of Frs: 8.00 per Kilo for a pigment which they say is practically 100%; it seems to vary from 97% and upwards. The quality as to colour and hiding power varies, but seems to be improving. Mr. Gilbert's people find it difficult to keep the position with our present prices; they are now more than 25% above white zinc—the maximum difference we agreed upon last summer. If the price should be reduced to corresponding with 25% difference, it will mean a loss of nearly 80.000 Frs. for the French company on their present stock. I have agreed to a proposal from Mr. Gilbert to keep the price officially the same, as it was, but make reductions in special cases where it cannot be avoided.

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The amount of sales has declined compared with last year as to quantities. According to reports from Mr. Gilbert's inspector of sales, it is a matter of price to reach an increase,—the quality is acknowledged. Mr. Gilbert further informs me that the tendency of the market is going more and more in the direction of adulterated pigments.

Montecatini.

In the newspapers it has recently been published that the Company let know that they produce now Titan White, Lithophone and White Zinc for the requirements in Italy and also for the export; also that negotiations are going on between Montecatini and some American groups, re licenses for the production in Italy of chemical products which are imported at present.

Yours very truly,

G. JEBSEN

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December 14, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
23 Rue Ballu, Paris, France

Dear Dr. Jebsen:

I have your letter No. 18 dated November 25th with reference to the activities of the companies operating under Mr. Blumenfeld's patents.

It is expected that the plant of the Commercial Pigment Company at Baltimore will be in operation early in the new year, and we may expect some active competition.

The question of the attitude we should take toward these Blumenfeld patents is one of the subjects that we would like to discuss with you if you find it convenient to visit us this winter.

Yours very truly,

Vice President

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Exhibit 127

Letterhead of

PHILIP C. PECK

December 19th, 1927.

Mr. William F. Meredith, President,
Titanium Pigment Company, Inc.,
94 Fulton Street, New York City.

Re: Commercial Pigments Corporation

Dear Mr. Meredith:—

You and Mr. McCarty have instructed me to study the various U. S. patents issued to your Company as well as to the Titan Co., in order to determine, at least preliminarily, what patent-protection would be afforded you as against the use by Commercial Pigments Corporation of the so-called Blumenfeld processes for production of titanic acid at Baltimore, and the subsequent sale of the resulting titanium compounds for use by others in the manufacture of paints, etc.

Mr. Barton has furnished me with a list containing 51 patents owned by your Company and also 21 patents issued to the Titan Company involving this subject matter, all of which I have carefully examined with regard to their various claims for processes, products and for uses of titanium compounds in the arts and their possible infringement by the above Company and its customers.

The only information as to what comprises the Blumenfeld procedure in the manufacture of the sample product is obtained from recent letters of Mr. Jebsen as to what a Dr.

Raspe told him regarding the operations used at the Montecatini plant in Italy, such information coming from a man of the "I.G." who had visited this plant. Hence the vagueness and uncertainty as to what detailed procedure was actually employed, and the hearsay character of the proof is manifest.

Such Blumenfeld-Montecatini methods may be summarized as follows:—

Finely ground ilmenite is mixed with sulphuric acid and heated in flat iron pans while the mass is stirred by rotary stirrers. The stiffened cake obtained from this decomposition is in the form of lumps which are then cooled.

The titanic sulphate lumps are then dissolved and the solution drawn off to a clearing tank where the clear solution is treated with copper sulphide which settles and takes with it the finest sludge. What chemical reactions take place are not disclosed.

The titanium iron sulphate clear solution so obtained is then cooled on revolving cylinders at about 0° C., which artificial refrigeration causes the sulphate of iron to crystallise without combining with the titanium salts. The iron sulphate crystals are then removed, and then the titanium oxide is precipitated by hydrolysis, washed and calcined.

The sample product so obtained has been analysed by Mr. Barton as follows:—

Titanium Oxide	96.75%
Sulphuric Anhydride	.48%
Phosphoric Anhydride	.50%
Loss on Calcination	.51%
	98.24%

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Mr. Barton has informed me that the particles are not amorphous, but exhibit a crystalline structure under the microscope and that the product has a specific gravity of 3.92.

In the process as above outlined, the treatment of the solution with copper sulphide and the subsequent artificial refrigeration of the titanium iron sulphate solution to crystallize the sulphate of iron appear to be novel features. The other steps employed have long been common practice in this art with different intermediate steps to attain various titanium compounds and products.

The Blumenfeld patents do not aid in explaining the details of their plant procedure to any great extent, though British patent No. 253,550 appears to disclose that intermediate step in which artificial cold is used for crystallising the sulphate of iron accompanying the sulphuric solutions of titanium oxide. No U. S. patent on this feature has been granted so far as my information goes.

Of course we have no assurance that Commercial Pigments Corporation will actually use the Montecatini processes as above outlined, or any of those methods described in the Blumenfeld patents which it is supposed to own or control. Hence the inherent difficulties of positively determining infringement.

Three main questions arise viz:—

1) Does the Blumenfeld procedure at the Montecatini plant infringe any process claim or claims contained in your patents and/or in those of the Titan Co?

2) Does the sample product obtained by the use of these Blumenfeld processes and having the characteristics which I have given infringe any article or product claim of these patents?

3) What protection would be afforded you as against uses of the Commercial Pigments Corporation's titanium products and sold to their customers for making paints etc?

I will discuss theese questions 1 and 2 together since many of the patents have both process and product claims phrased in similar language. As to the process or method, your patents may have certain claims embracing the entire procedure, and other claims covering only an intermediate step or steps less than the entire process used.

In regard to the article or product, your patents may have claims covering the final product, or any intermediate compound or solution which is patentably new.

Processes and products are regarded as separate inventions though often combined in a single patent, since normally a new process may result in several products besides that one which is new and patented; and likewise a new product may be made as well by some old process, or even by some new method different from the one patented. Hence each patent and its several groups of claims must be analysed and studied from two different view-points to determine whether the Blumenfeld methods and resulting product are covered by the claim-language defining the respective improvements in order to make out a *prima facie* case of infringement.

Process and Product Patents

I will first consider the patents owned by your Titanium Pigment Company and then those of the Titan Company.

I do not find that your Pigment Company has any patent or patents which have claims covering the Blumenfeld process either in its entirety or in any step or combination

of steps as a sub-feature of the process. Most of your patents for extracting TiO_2 from ilmenite ores prescribe their fusion with alkali compounds as the preliminary step. However some of your patents have article or product claims that might be infringed.

Rossi & Barton No. 1,106,406 (claims 18-21) specify the "amorphous" character of the calcined product which shall also contain some iron. These claims would not be infringed by the Blumenfeld product as analyzed by Mr. Barton.

Rossi & Barton No. 1,171,542 (claim 2) covers broadly a titanic acid product "by analysis as consisting principally of titanic oxid and as containing also sulfuric anhydrid". The Blumenfeld product by analysis contains such constitutents and would infringe such claim 2.

Barton No. 1,189,229 (claim 14) covers substantially pure TiO^2 since the product must contain "titanic oxid not less than 99.75%". Claim 14 does not specify that the particles are "amorphous" as in claims 11-13. However the Blumenfeld product by analysis contains only 96.7% titanic oxid and so is outside the prescribed purity of claim 14.

Other Pigment Company patents having article claims are Rossi & Barton No. 1,166,547 (claim 10) limited to amorphous titanic oxid not less than 90% and as also containing soda; Rossi & Barton No. 1,196,031 for a basic titanium sulphate; and Rossi No. 1,272,855 (claim 7) specifying a powder consisting essentially of titanic oxid and "as containing constitutents of organic origin". None of these patents appears to be infringed by the Blumenfeld product so far as we know of its characteristics chemical and otherwise. However the basic titanium sulphate claim for a titanium compound (No. 1,196,031) comprising a pre-

ponderance of TiO_2, less combined water and less sulfuric anhydrid than combined water may be infringed when further data is obtainable as to the procedure to be employed by Commercial Pigments Corporation.

Several of the Titan Co. patents *may* ultimately be infringed when we learn more in detail just how the Blumenfeld methods are to be used industrially at Baltimore.

Goldschmidt No. 1,348,127 has claims for effecting crystallization in a titanium oxygen compound by heating such compound (temperature range 900°-1000° C.) "until the particles (TiO_2) constituting the structure exhibit a crystalline interior structure and a smooth exterior surface" (claim 1). Claim 19 covers the article in like terms. Goldschmidt states that his invention broadly consists in changing amorphous titanium dioxid or compounds containing titanium and oxygen into a "crypto-crystalline modification" by heating above the usual temperatures required to produce amorphous TiO^2 (p 3 lines 5-7). Assuming that the Blumenfeld product is in crystalline form as stated by Mr. Barton, was this super-heating feature of the Goldschmidt process actually used to produce such claimed crypto-crystalline structure? At present we do not know what temperatures were employed at Montecatini in calcining. But irrespective of the process, claim 19 covers the resulting final product and reads as follows:—

> "As a new and useful article of manufacture, a substance comprising titanium oxid, the particles of which exhibit a crystalline interior structure and *a smooth exterior surface.*"

Farup No. 1,360,737 (claim 8) covers broadly a new step in the manufacture of white pigment by the introduc-

tion of a small amount (2½%) of phosphoric acid into the mixing vat containing crude titanium oxygen compound and sulphuric acid as a decomposing agent. The Blumenfeld procedure does not state that any phosphoric acid is added in the ilmenite decomposition, but the sample product contains .50% phosphoric anhydride which comes within the scope of claim 12:

> "As a new and improved article of manufacture, a white or light colored pigment containing *an oxygen compound of titanium and combined phosphorus.*".

This constituent may have been derived from the titaniferous material. Assuming, however, that some phosphoric acid was added in the mixing vat, Farup's claim 8 would likewise be infringed for it covers the single step of "intimately mixing a titanium hydrate with a relatively small amount of phosphoric acid". Mr. Barton thinks that this phosphoric constituent was derived from the ores used as starting material.

Washburn No. 1,412,027 discloses the idea of mixing a compound comprising essentially titanic oxide with a phosphate and calcining the mixture at a sufficiently high temperature (950° C.) to convert TiO^2 into the cryptocrystalline modification as per Goldschmidt patent No. 1,348,129. Such patent combines in a new way some of the features of Farup No. 1,360,737 and Goldschmidt No. 1,348,129. Infringement of Washburn's claims would have to be predicated upon mixing phosporic acid or a phosphate with titanium hydrates followed by "super-calcination" to convert TiO^2 into a crystalline form with some phosphoric compound persisting in the final product. Washburn's

claim 15 broadly covers the new product and reads as follows:—

> "As a new and useful article of manufacture a pigment comprising TiO_2 *in the crystalline form and combined phosphorus.*"

Such claim would be infringed by the Blumenfeld sample product as analyzed by Mr. Barton provided the particles of titanium oxide are "in the crystalline form" and the combined phosphorus was added to the mass before calcination.

Summarizing, I am of the opinion that the only Pigment Company patent which might be infringed is Rossi & Barton No. 1,171,542 (claim 2), while several of the Titan Co. patents appear to be infringed by the Blumenfeld processes and product obtained thereby both as to process claims and resulting article claims.

Should the addition of phosphoric acid or a phosphate be not established in the Blumenfeld procedure, I think that infringement of the Farup and Washburn patents is very questionable, since these patents are based upon the addition of some phosphorus compound to the charge before calcination. Our main reliance would then have to be placed on Goldschmidt No. 1,348,129 covering TiO_2 having a crypto-crystalline structure obtained by prolonged calcination at high temperatures (900° C 1000° C.).

Mr. Barton was of the opinion that the Blumenfeld crystalline product might have been obtained by employing the usual calcining temperatures. If this be established it is questionable whether Goldschmidt's broad crypto-crystalline claims would be infringed. I do not know what prior art was cited against the claims finally granted, but

it would appear that should the Commercial Pigments use old and well known calcining temperatures to produce crystalline titanium oxide, Goldschmidt's claims may not be construed to cover same without destroying their validity. Hence in the absence of clear information as to the temperatures used for calcination at the Montecatini plant, it is difficult, if not impossible, to render a definite pronouncement respecting the Goldschmidt patent. Goldschmidt seems to be committed to the theory that all water of hydration is removed at lower temperatures (say about 700° C.), but that the TiO_2 is then in amorphous form (p 2 line 121—p 3 line 34); then upon further heating to a temperature ranging from 900° C. to 1000° C., the desired degree of crystallization which is the subject matter of his invention is thereby produced viz: the particles of TiO_2 exhibit a crystalline interior structure and a smooth exterior surface (claim 19), and diagrammatically shown in Fig. 5 of the drawings. Microscopic examination is the only test required for validity as well as for infringement with respect to the article claim 19, while the calcining temperatures (900°-1000° C.) are the essence of the process claims for effecting his crystalline modification having the structural characteristics set forth in claims 18 and 19,

COMMERCIAL PIGMENTS CUSTOMERS' INFRINGEMENT

Both your Company and the Titan Company have a number of patents covering the use of titanium oxide compounds in other products, such as a pigment in paints etc., and the patent-protection afforded your own trade is one phase in this general subject matter that merits careful consideration. As a rule such patents enforceable against a manufacturer's trade are an effective weapon against the

manufacturer himself who is bound more or less to defend his trade's use of his products.

Taking the Pigment Company's patents in order, I will summarize as follows:

Rossi & Schroeder No. 1,205,267 covers a paint comprising a pigment containing "amorphous" TiO_2 uncombined chemically with other substances, and would not be infringed by the Blumenfeld crystalline product, the use of crystalline titanic oxid being disclaimed (lines 95-100). The same disclaimer is carried into patents Nos. 1,205,268 and 1,205,269.

Rossi & Schroeder No. 1,205,268 includes white lead and "amorphous" TiO_2 in a paint as to claims 1-5. Claim 6 is not limited to amorphous titanic oxid but reads as follows:

> "Paint containing white lead and more titanic oxid (TiO_2) uncombined chemically with other substances."

Such claim 6 might be infringed if the paint manufacturer used more TiO_2 than white lead in producing his paint.

Rossi & Schroeder No. 1,205,269 is substantially the same as to its six claims as No. 1,205,268, except that "zinc oxid" is substituted for white lead. And this claim 6 might be infringed if the paint manufacturer proportioned his ingredients so as to use more TiO_2 than zinc oxid.

Barton & Gardner No. 1,236,367 covers broadly the method of making improved linoleum products by incorporating therewith a titanic material and also claims the resulting product.

Barton No. 1,251,170 (claim 4) covers a pigment comprising titanic oxid and thereto unadherent barytes. Such

claim might be infringed by paint manufacturers using the Blumenfeld product.

Barton & Gardner No. 1,283,455 covers broadly the method of incorporating in printers' ink and colors titanic oxid (claim 8) and also the resulting ink containing titanic oxid (claim 4).

Barton & Gardner No. 1,286,916 covers the method of producing a lake pigment which consists in adding to the solution a white base containing a substantial amount of TiO_2, and also the resulting lake.

Barton & Gardner No. 1,317,854 covers "filled fabric goods". Claims 1, 2, 5 and 7 are limited to the use of "amorphous" titanic oxid, while claims 3, 4 and 6 are restricted to the use of "composite titanic oxid pigments". Hence this patent would not be infringed by use of the crystalline TiO_2 produced from the Blumenfeld processes.

Barton No. 1,322,518 covers broadly the method of incorporating titanic oxid in rubber and the resulting rubber article, while Barton & Gardner No. 1,326,319 (claim 2) covers rubber having therewith incorporated titanic oxid and zinc oxid.

Barton & Gardner No. 1,362,917 covers the method of introducing not less than 25% TiO_2 in the batch to form glass-ware including the resulting product.

Barton & Gardner No. 1,365,882 covers "plastics" in which titanic oxid is incorporated in the constituents before formation, claim 14 broadly covering a nitro-cellulose composition containing titanic oxid.

These patents, or at least some of them, would furnish considerable protection to your trade as against purchasers of the Commercial Pigments' products for subsequent use

and embodiment in the various articles that they might manufacture and sell in competition with your customers.

Not one of the Titan Co. patents that I have examined contains claims which would be infringed by buyers of the Commercial Pigments' products, except as users and in contributory infringement.

Conclusions.

I regret that the absence of definite and detailed information as to the Blumenfeld procedure and also as to the characteristics and functional capabilities of the resulting sample product forces me to render an opinion that is based largely on assumptions and embraces only potential infringements of your patents, particularly as the Commercial Pigments processes at Baltimore and the titanium products made and sold by them may differ materially from the Blumenfeld-Montecatini methods and product in the very earmarks which I have relied on to predicate infringement. For example, other patents not now infringed may be used by the Commercial Pigments and *vice versa*. I believe you will realize how it is impossible to be explicit, but I hope that this Report may serve to clear the atmosphere, at least to some extent, as to the likelihood of prospective infringements by Commercial Pigments Corporation and its customers. I shall be glad to advise you further regarding any specific inquiries that may occur to you.

I am sending a duplicate of this Report to Mr. McCarty.

Very truly yours,

Philip C. Peck.

PCP/VP

Exhibit 128

January 17, 1928.

Mr. Evans McCarty, Vice President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. McCarty:

I have been studying the O'Brien (Glidden) patents, relating to lithopone-titanium oxide pigments, as to possible infringement of our patents.

The O'Brien patent 1,600,773 claims only methods of preparing lithopone in the presence of titanium compounds such as the oxide and I doubt if their process infringes any of our patents.

The O'Brien patent 1,600,772 refers to methods of mechanically mixing (either wet or dry) lithopone and titanium oxide and a pigment comprising lithopone and titanium oxide is claimed as a new article. The public has for a number of years been making all kinds of mechanical mixtures of our pigments containing titanium oxide with other pigments including lithopone; for example, where titanium pigment is added to lithopone in flat wall paints to improve the hiding. It would seem that this patent would be invalid in view of the Rules of Practice of the United States Patent Office which state: "A patent may be obtained by any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his inven-

tion or discovery thereof,—and not in public use or on sale in the United States for more than *two years* prior to his application."

Even though the O'Brien patents are held to be valid, I believe the use of their products would be an infringement of our Rossi & Schroeder patent 1,205,267, which covers, as a new article, white paint containing titanium oxide. For example, Claim 4, "White paint containing a plurality of pigments, one of which contains amorphous, white, titanic oxide (TiO_2) uncombined chemically with other substances."

I guess this is about all I can offer in regard to our telephone conversation this morning and hope it may be helpful in connection with the subject in hand. At the moment it seems as if it might be a happy solution of the problem, if the Glidden Company could see the advantage of using our titanium oxide in making their products. In all probability we can manufacture titanium oxide cheaper than they can, quality considered.

Very truly yours,

Dict. L. E. Barton
FE CC W.F.M.

Exhibit 129

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

April 13, 1928.

Dear Dr. Jebsen:

The New York papers this morning published the news of the formation by the Imperial Chemical Industries and certain American financiers of an Anglo-American corporation with a capital of $10,000,000—which has been formed for the purpose of developing and exploiting new enterprises, chemical and otherwise, in the United States and Great Britain.

Sir Harry McGowan is named as one of the officers in the new company, and it is quite likely that his recent visit to New York was in connection with this business.

I am also informed that Mr. Tichnor, President of the Commercial Pigments Company, sailed for Europe a short time ago. I do not know whether his trip has anything to do with titanium or not.

In any event, I think that it will be well to watch developments in England closely as we know that Mr. Weisman has been in fairly close contact with Sir Alfred Mond and with important financiers in this country.

Cookson no doubt has some connections with these people, but it does not at the moment seem to me that the white lead manufacturers would add any strength to the group unless patents that may be owned or acquired by them should have either an actual or a nuisance value.

As stated above it is a situation which should be watched closely, and we will be interested in any news you may pick up.

With kind regards, I am,

Yours sincerely,

Vice President.

Exhibit 130

GJ/HS.

Letterhead of
TITAN CO. A/S
No. 83.

Paris, May 8th, 1928.
Sté Industrielle du Titane,
26 Rue de la Pépinière,
Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. McCarty:

Regarding your information of April 11th, as to the P. Schüller & Son of Hannover, Germany, offering Titanium Oxide said to be manufactured by themselves at 16 cents per lb. I beg to inform you, that this firm, as far as we know, is a merchant who probably is offering the Montecatini product. He has offered I. Schoen & Coos a Titanium Oxide; 98-99%, at a price of Gülden 87.—per 100 kilos for deliveries of 1000 kilos, with reductions Gülden 84 for contracts of 10.000 kilos. Deliveries to be C.I.F. Rotterdam.—An investigation of a 5 grammes sample made in Fredriksstad gave the following result:

Colour K 00
Tinting strength 700
Oil absorp, about 30;
Fineness satisfactory.
TiO_2 95.80%

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As a comparison the Extra "X" has K O and a Tinting strength of 600, Titanox K 00, and Tinting strength 450.

We are under the impression, but have no evidence as yet, that Montecatini is selling the TiO_2 product to various firms in various countries, and these firms are mixing it with extenders and Zinc Oxide making various compositions and selling under various brands and names, which results in a confusing quantity of various Titanium products.

It seems that there is very little co-operation between the various Blumenfeld factories as to bringing Standard qualities on the market.

Mr. Ravner has made the enclosed tabular on the basis of the latest investigations made in Fredriksstad as to products from the "Verein", Aussig, and from the firm Münz in Berlin. The last firm is no manufacturer but receives the TiO_2 either from Aussig or from Montecatini. You will see, that although these two firms are partly using the same designations, these apply to quite different qualities.

I enclose a translation of a report from the Tefa A. G. in Tschecoslovakia, which is the selling corporation of the I. G. in that country, and which has taken over the sale of Titanium White in that country.

As you probably will reihember all the representatives of the I. G. in the territory of the Titangesellschaft outside of Germany are now acting as our agents, and are working in direct communication with the Titan CO. in Fredriksstad until the Leverkusen factory can produce. This arrangement gives our organisation quite a considerable work, but has the advantage that the various representatives can be direct informed by us regarding our experiences.

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I enclose a propaganda circular which an Austrian firm has printed on their own initiative and expenses, and without our knowledge, sent us from the I. G.'s Austrian representation.

We have sold small quantities in Austria for some years, but I did not know that our reputation there was such that it would give an advantage justifying a propaganda of this kind. If it is the case—so much the better.

3 encl.

Your very truly

G. JEBSEN

Copy to: Mr. Moses
Mr. Hallett

Exhibit 131

May 28, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

We are much interested in your letter No. 83 dated May 8th with enclosures, and note your account of the activities of the various companies in Europe that are using the Blumenfeld process.

The Commercial Pigments Company in Baltimore are making some quotations, but so far we have not heard of any sales.

Yours very truly,

McCarty
Vice President

Exhibit 132

Letterhead of

TITAN CO. A/S

GJ/HS.

Paris, October 18th, 1928.

Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. McCarty:

Many thanks for your letter of October 10th.

There is so much work to do for Mr. Ravner here in connection with the organisation of next years sales, that it will not be possible to send him to the United States this winter. I am also inclined to think that more benefit may be arrived at when one of your salesmen can work together with Mr. Ravner and Mr. Noel Heaton here, as the European problems will be put more into foreground when compared with the American experience with which your salesmen are thoroughly familiar. I will therefore much appreciate it you can spare Mr. Hagar, and have cabled you today as follows:

"Will appreciate Hagar visit Europe this year."

I much appreciate your efforts to secure more favourable freight rates for Titanox. Although the results will be too late for the shipments this year, it may have an

effect for the future and for the Pure TiO_2, which we probably will not be able to produce on this side yet for some time to come.

The examination of the Pure Titanium Oxide from Thann & Mulhouse was very interesting. The low Tinting Strength which these products show have made me doubt whether they really calcine at the temperature covered by the Goldschmidt patent. We are under the impression that the Auer Company products lately do not show an increase in the Tinting Strength, but rather the opposite, and they may have taken fear of a patent litigation. You will remember we consulted early in the year a prominent patent expert in Berlin, Mr. Isay, who expressed himself in our favour with regard to certain questions in connection with the Goldschmidt patent, and afterwards it was found that he was the Auer company's adviser.

I talked with Mr. Washburn over the telephone last week, who told me that they were regularly making two digestions every day with more than 97% recovery of the TiO_2. He expected the precipitation to start this week and the first products to go through the furnaces in the middle or the end of next week.

I intend to go to Leverkusen Sunday night and will meet Mr. Knudsen there on his way to Paris in order to talk over certain arrangements regarding deliveries from Leverkusen.

Mr. Ley was very happy to have our cashier Mr. Hanssen from Fredriksstad come to Leverkusen. You will remember he shall look after our shipments and our stocks in Leverkusen for some months until matters are going smoothly. I suppose he will have some free time which Mr. Ley can make use of.

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I am very glad to hear that your financial loss from the robbery in your apartment will be mostly covered and hope that the silverware, which has been traced, is that which Mrs. McCarty and you are most fond of. It is a very unpleasant experience to come home to anyhow, and I suppose it has given you both besides the anxiety a lot of trouble. I also presume that you have had your time fully occupied with all the work waiting for you, so your letter is so much more appreciated.

Mrs. Jebsen and the children are well.

Hoping the same is the case with Mrs. McCarty and yourself, I am, with kindest regards for you both,

Yours very truly

G. JEBSEN

1 encl.

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October 31, 1928.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I am much interested in your letter of October 18th, No. 143, which is just at hand.

The Commercial Pigments Company is becoming increasingly active, and the question as to the best method of meeting this competition is engaging the minds of all of us that are connected with the business.

We are contemplating a reduction of 1¢ per pound in the price of Titanox and a possible reduction in the price of pure titanium oxide. Should we carry out this policy our salesmen will be very active until the business is established on the new price basis, and we may not be able to spare Mr. Hagar until some time in the new year. As soon as we can advise you definitely on this point I will do so.

I note your comments with respect to the low tinting strength of the pure titanium oxide from Thann & Mulhouse. In Baltimore, however the Commercial Pigments Company are producing a titanium oxide of high tinting power and probably crypto crystalline structure indicating that the product is calcined at temperatures covered by the Goldschmidt patents.

The information that Mr. Washburn is regularly obtaining a recovery of 97% in the digestion tank is interesting. Our reports indicate that in regular factory practice an 85% recovery is obtained at St. Louis although I think that Mr. Washburn has obtained better results in individual cases.

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I am glad to know that Mrs. Jebsen is well, and hope that the boys are happier in their school than they were last year.

With kindest regards for you all, I am,

Yours very truly,

Vice President

P. S. The following extract from the trade report of the visit of one of the Titanium Pigment Company's salesmen to the United States Navy Yard at Portsmouth, Virginia, will interest Mr. Ravner:

"The full use of Titanox is being gradually worked into all the formulas where such a pigment is possible. Up to the present, only the whites (paints and enamels) have contained it, but they are now ready to enter into the manufacture of battleship gray with Titanox, which is the reason for a larger recent order by Mr. Adamson (200,000 lbs). He expects that by June the use of Titanox will be at the rate of 1,000,000 lbs. per year and that the increase from then on will be very gradual. Incidentally, he estimates that within a year to 18 months, the Mare Island Yard will require 500,000 lbs. per year.

Everyone connected with the paint plant is very enthusiastic about the results obtained with Titanox and all of their exposure tests, (which we inspected today), show up decidedly in favor of Titanox as compared to all other combinations under test."

506

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Letterhead of

TITAN CO. A/S.

GJ/HS

Paris, November 9th, 1928.
Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 82.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. McCarty:

RE: DORSEY & COLES REPORT ON ROSSI & SCHROEDER, PATENT NO. 1,205,267 AND GOLDSCHMIDT PATENT NO. 1,348,129.

From Dorsey & Coles' report I understand that the T. P. Co. proposes to contend that the Rossi & Schroeder patent No. 1,205,267 shall cover the use of the product from the Goldschmidt patent, this eventually giving us the advantage of a broader protection.

The contention should be based on an interpretation of the designation "amorphous" to cover also the crypto-crystalline state, as the art at the time R. & S. applied for their patent should only know the "amorphous" and "crystalline" states of material.

If such a broad interpretation of the R. & S. patent—that it covers products which had not been made at the time of the invention—can and will be accepted by the court, then there is a chance.

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Whether, however, a court will range the crypto-crystalline form to belong to the amorphous or the crystalline group I think is very difficult to know, and a legal proceeding on such basis involves a considerable risk.

It must be kept in mind, that Rossi & Schroeder at the time of their application, November 19th, 1912 had not had the Goldschmidt products in their hands.

The 21st of March 1916 in a patent application (granted under No. 1,313,874), Mr. Barton on lines 40-58 says:

> "It is only quite recently that methods have been invented resulting in purer concentrates, the titanic oxide (TiO_2) of which is in amorphous state and chemically uncombined with other substances, such methods being those, for instance, claimed in Letters Patent Nos. 1,106,406, 1,106,407, 1,106,108, 1,106,409 and 1,106,410 granted to Auguste J. Rossi and myself on August 14th, 1914. While such last mentioned titanic oxide concentrates are very useful for many purposes, including pigments in paints, their hiding power in the latter has been surpassed by the above referred to "composite titanic oxide pigments", the which are as per the claims of said patent No. 1,155,462 distinguished from prior products as comprising titanic oxide and a sulfate, . . ."

The composite pigments referred to are the pigments with 25% TiO_2, and as everybody knows, these composite pigments have a tinting strength of 350 to 400, whereas the Goldschmidt products have 600 to 1000 and more.

With other words, at the time of the application for the serie of patents mentioned above,—which was November 29th, 1912—ten days after the application date of the

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Rossi & Schroeder patent—, the inventors had not been able to make a product of a tinting strength of 350 to 400. It must have been considerably lower, as the 25% pigment did surpass it, and it is only during the last eight years that this has been developed to the present tinting strength.

This means that the inventors at that time calcined the TiO_2 only in a very moderate way compared with our later practise—and Goldschmidt's prescriptions.

It is also from patents applied for during years thereafter evident, that the inventors did not know to make use of temperature and time during the calcination in order to obtain products of the high hiding power, which Goldschmidt's products show.

In the later patents, where some directions for the calcinations have been given, the description limits the calcination to the point where dehydration has taken place, or all volatile matters are driven off.

It appears from many of the patents, that the inventors do not want crystalline products—these being gritty and unsuitable for pigment purposes—hence the pointed way in which the products are characterized as amorphous, soft, chalklike, etc.

At the same time they *had*, however, to calcine in order to dehydrate and drive off the volatile matters (acid). Consequently they calcined to these last purposes and are careful not to go further in order to prevent the creation of a crystalline product.

In July 1914 (Patent No. 1,236,655) they calcine "at red heat until free from volatile matters (i.e. combined water)".

In September, 1914 (Patent No. 1,189,229) the calcination is done "at 700° until all volatile matters expelled, thus converting titanic acid into oxid."

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In April 1915 (Patent No. 1,205,144) Mr. Barton calcines "at 6 to 800° to such complete expulsion of volatile matters to result in decomposition of basic sulfate".

On July 19th. 1915 (Patent No. 1,234,260 and 1,240,405) Mr. Barton calcines "at 6 to 800°, thus obtaining my final composite product."

On July 27th. 1915 (Patent No. 1,223,356) Mr. Barton says: "I have, however, by resort to exceptionally pure materials, and the most thorough calcination possible been able to exceptionally produce some specimens of my final product, which on analysis showed no sulfuric anhydrid and only traces of chlorin."

This description of the calcination it is to be feared could be held as evidence of prior art to the Goldschmidt patent.

His purpose is evidently though to drive off acid matters, and the words "thorough calcination" to be seen in relation with this.

Mr. Barton has given a rather elaborate description of this pigment, and I agree with Mr. Cole, that this product should be made a matter of comparison with the Goldschmidt products.

The characteristics of the pigment, the high oil absorption, the bluish tint, and the specific gravity indicates, that the product is amorphous and not of the Goldschmidt quality.

It is to be hoped that this is the case, as this patent does not influence the question of the R. & S. patent, it being of a several years later date.

A further indication that Mr. Barton has not also this time had the G. products in his hands is his directions for calcination in his later patents.

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With regard to the patent No. 1,155,462 Mr. Barton applied for a reissue on August 3rd. 1916, and the patent describes the calcination to be made "at red heat until free from volatile matter (i.e. combined water)."

On August 29th. 1916 (Patent No. 1,223,358) he calcines "to substantially complete dehydration about 750°C."

As late as March 30th. 1917 (Patent No. 1,235,638) he prescribes calcination "at about 750°C. to complete dehydration."

If Mr. Barton had known about the possibilities of the use of higher temperatures and time by the calcination, it must be assumed that these descriptions would have been different.

Mr. Goldschmidt's patent has the priority date of October 14th. 1916.

I hope no offence will be taken of the pointed way I have put my arguments. I have done so, because I think something similar could be the defense which the Commercial Pigment Co. may make for their product, which you told me has a tinting strength of 1000 or more, and therefore according to our knowledge must have been made according to G.'s way of calcination.

It should be interesting to have TiO_2 pigments made according to the most explicit directions given by Mr. Barton and compare the qualities with products made after the G. patent.

I think the difference in tinting strength will be conclusive.

I have found Mr. Cole's report to be very interesting and good, and I believe his view as to the character of the Goldschmidt patent is right.

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The pointed discussion of the question crypto-crystalline contra amorphous, which evidently has taken place, is apt, however, to take the mind away from the most important practical point in the question, namely that the products obtained by Goldschmidt way of working distinguish themselves from the previously obtained products by their much higher tinting strength.

The difference is such, that in practise one is apt to see in the tinting strength the criterium for the product being either crypto-crystalline or amorphous.

Mr. Cole would probably have brought this more in the foreground, if he had been familiar with the great difference there is in the tinting strength (between the pigments).

I beg though to make the following observation.

The theory which Goldschmidt has developed in his patent description as to the structure of pigments giving the highest hiding power (complex pigments)—the application of which forms the basis for his invention—is of such a nature, that it will give Goldschmidt's patent the widest scope.

I suppose this is the reason why Mr. Cole lays so much stress upon the crypto-crystalline nature of the pigment not being had by Mr. Barton.

I think in this he is right, although it looks to me he is going too far in the consequences he draws; this is, however, a legal question, on which I can not venture a definite opinion. But from a practical point of view—in these particular cases of Mr. Barton—I am of the opinion that there must be such a difference as to the tinting strength of Barton's pigments compared with Goldschmidt's, that it is conclusive with regard to the novelty of Goldschmidt's patent as to the use he makes of temperature and time.

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It can be said, that Goldschmidt does not give any definite data as to the time of calcination.

It is obvious though from his description, that time is of great importance, namely the time necessary to obtain—at the temperature chosen—the effect he is working for, which is the highest degree of development of the structure of the pigment to give the highest tinting strength—and not merely to expell all volatile matters,—which does not come to the same end and from our experience will not give the same pigment.

I beg to insert the reservation, that we have in our experiments not started from exactly the same raw material, but it is not likely that the raw material used by Mr. Barton should show such a difference from ours as to the elimination of volatile matters, that the result should be principally different.

It looks to me, that the Commercial Pigment Co.'s pigment infringes anyhow G.'s patent, unless they have been able to make their pigment without applying the means of G. (temperature and time) in the way he does.

The only indication that this could be the case is the effect of the peptisation, which is their new feature.

I believe, however, that such a fine division of the particles, which they should obtain, will probably lead to a pigment of a much higher oil absorption than it has, unless they transform the particles in the precipitate to a cryptocrystalline state by calcination at the temperature used by Goldschmidt. If not, their pigment must be amorphous and should then, I suppose, fall under the Rossi & Schroeder patent.

In short, and a little inaccurate, one may say to have the choice: Either keep to the Goldschmidt patent as inter-

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preted by Cole—that is use the structure of the pigment as criterium for an infringement and as basis for protection—or keep to the temperatures employed, in which latter case I should be interested to know if legal opinion would give the patent the scope of protecting all titanium pigments calcined at that temperature, or only those of crypto-crystalline character.

The first alternative gives the broadest scope, but I understand that Mr. Cole thinks, that if anybody previous to the Goldschmidt application unknowingly has produced a pigment of a crypto-crystalline structure, it will be a serious blow to the value of the patent.

This is an interpretation of the law, on which I will not venture a definite opinion.

What Mr. Goldschmidt has done, is to apply in the art the theory he describes so well in his patent.

Its application has led to new and unexpected results of great economical importance, and this I believe is the chief condition for the acknowledgment of an invention.

It looks to me therefore, that even if Barton's product was crypto-crystalline, Mr. Goldschmidt's patent will have a wide—although not so well defined—scope; as Mr. Barton's product anyhow can not by far have had the same tinting strength.

I beg to add, that my remarks above do not tend to minimise or imply any criticism as to the very good work of Mr. Barton and the other inventors of the T. P. Co. They were in the same situation as we in the Titan Co.

A considerable work was done to develop the Titanium White industry, and the pigments we had got were already so remarkable compared with White Lead and White Zinc —as to hiding power—that we of that reason had no special

inducement to go further in that direction. Then as often is the case—a fresh mind entering the field combining his experience with ours is able to reach a new high peak.

I beg to add, that due to much other work the search through the patents to the purpose of substantiating my view has been made by Mr. Ravnestad

I further beg to draw your attention to the following:

Mr. Barton in all his patents concerning the production of pigments does, as far as I know, limit his claims concerning the calcination to—a calcination of the precipitates produced according to the description given in the respective patents.

This limits the scope of the protection by his patents quite considerably.—

Mr. Goldschmidt, whose invention is confined to the calcination and products obtained through this specific calcination, starts from Titanium compounds independent of the manner in which they are produced, and is very broad as to the chemical composition of the raw material as well as the final products.

Consequently his patent provides for a very broad protection as long as it is necessary to make use of calcination.

In some of our European patents though the raw material is limited to be an *amorphous* titanium compound, but according to Mr. Cole's letter of March 20th, 1928 (preliminary report), this is not the case with our position in U. S.

It is there accepted that the raw material can also be only partly amorphous, and most likely this will be accepted also for our other patents.

We have feared that the Auer Co. may start their calcination from a crystalline product and obtain interesting

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results, and I have had Mr. Farup and Ravnestad working with this question.

Previous experiments have indicated, that precipitation under pressure and/or from solutions of higher acid content than used in St. Louis and by us show a certain resistance against a transformation by calcination.

Experiments to this purpose precipitating under the conditions mentioned—especially as described by the Auer patents, confirm this.

The precipitates subjected to calcination at 900° during 1 hour have shown comparatively low tinting strength—below 500—except thrice, in which cases the circumstances were not so satisfactory that the result forms the basis for any conclusion to the opposite.

The very limited assistance Mr. Farup and Ravnestad has, has not enabled them to go further with the experiments, and it would be interesting if this question can be followed up further in U.S.A., where more laboratory help is at disposal.

It is near to think, that a product, which from precipitation is already crystalline, shows more inertia than an amorphous product.

The U.S.A. patent may even be construed to cover a crystalline raw material, provided in this last case it can be shown, that the calcination effects a change of the interior structure of the crystalls in such a way, that a complex pigment is formed, and the exterior is sufficiently smooth to satisfy the demands for the use in paint.

Pigments thus made will, however, most probably not be of the highest tinting strength.

I beg further to mention the idea of having both companies proceeding against the Commercial Pigment Co.

As far as I understand, this is legally feasible, as both companies own their respective patents, and both may have an interest to prevent them from being infringed.

The contract of 1920 provides the T. P. Co. with the right to make use of the name of the T. Co. A/S.

It looks to me that the arguments used in one case are likely to drive them into the field of the other.

The danger in the most cases of the T. C. Co.'s patents is, as mentioned the limitation of their claims to the products derived from the methods described for the production of the precipitates, but if the court takes the broader view you mentioned was Mr. Edmundds', this would not be to fear I suppose.

There is further a possibility that they will claim that the crystallisation of TiO_2 by calcination was already done by a Frenchman, M. Hautefeuille.

Mr. Blumenfeld mentioned this to me the one time I met him in 1922.

We have, however, never been able to find Hautefeuille's work to represent any danger, quite apart from the fact, that he never had in view, and there is no proof that he produced a pigment.

The patent department in Leverkusen on my request has also looked through his work and did not find anything of importance in this respect.

With regard to the article in "Chemical & Metallurgical Engineering" (July 1928), the following remarks may be submitted:

The writer of the article characterizes the process of the T. Co. as an analytical method transferred to industrial application.

Although such a transfer mostly constitutes sufficient newness to form a basis for considerable patent protections,

and the author therefore by such a statement very likely will not achieve his purpose, it should be noted that he is entirely wrong.

The digestion of Ilmenite with Sulphuric Acid only—has not been used as analytical method, as far as we know, and seems to me unlikely ever to be used of reasons obvious to any chemist.

Further, in the literature at that time the only method known to precipitate TiO_2 from Sulphate Solution by mere boiling was by making use of very dilute solutions. The dilution necessary was so far, that the operation was considered by us uneconomical from an industrial point of view.

We made the discovery, that a precipitation also could be had from a concentrated solution, and this forms the basis for our U. S. patent No. 1,288,863 (Case T.-17).

According to the description in the article, the solution used by Blumenfeld is basic and concentrated, and he must consequently infringe this patent.

According to our opinion the said U. S. patent cover the precipitation by boiling of Titanium Oxide in concentrated solution—this being basic and also "normal".

Claim 1., U. S. patent No. 1,288,863, contains no limitation as to basic solutions, and claim 2. is "characterized by containing acid in substantially no greater quantities than is required to form normal salts with the base forming material present."

By increasing the contents of free Sulphuric Acid of Titanium-Ferros-Sulphate Solution (say above 10% free acid), the precipitation output will decrease. If, however, long time of boiling is used, and especially in combination with the use of high pressure, it is also possible to obtain a high output by precipitating in a strong acid solution.

Exhibit 134

In this connection it should though be remeinbered, that as above mentioned, our investigations have indicated, that precipitation carried out in strong acid solution under pressure have given products more or less crystalline, which show a certain resistance by calcination against transformation to products of high tinting strength.

When I arrive in Leverkusen I will put the present letter before Mr. W. in order to have his opinion, as I last time only had a few words with him about my views in general on the G. patent, without having seen any of the T. P. Co.'s patents.

Mr. Washburn co-operated very closely with Mr. Cole on our patents at the time they went through the U. S. patent office, and is more familiar with the details and the points raised by the examiner at that time.

I regret to say, that I have not yet had time to study Mr. Coles "Report on infringement of Titan Co.'s patents by Blumenfeld" and must postpone to write about this for the present.

With kindest regards,

Yours very truly

G. JEBSEN.

P. S.—Mr. Cole's suggestion to use the specific gravities as a proof of the pigments' amorphous or crystalline character may prove very good.

I can though not agree, that it will be a proof against the Goldschmidt's patents, if his product also could be made with the specific gravities mentioned by Barton.

Although it is likely that there is a difference, it does not follow that a fault of such in specific gravity makes the products identical in structure.

c/c Dr. Thompson

Exhibit 135

Dr. G. Jebsen November 23, 1928.
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Please accept our thanks for your very interesting letter of the 9th instant, No. 156, commenting upon Messrs. Dorsey & Cole's report on the Rossi & Schroeder and Goldschmidt patents. I am arranging to have copies sent to those of our people that are dealing with the patent situation.

I think you have perhaps drawn from Messrs. Dorsey & Cole's report a wrong impression as to the position of the Pigment Company with respect to these two patents. As a matter of fact, the Titanium Pigment Company has taken no definite position, but is seeking by discussion and exchange of views the wisest course to follow.

One of the reasons urged in favor of taking a broad view of the word "amorphous" as used in the Rossi & Schroeder patent is that the American patents covering the use of titanium oxide in the various arts refer to titanium oxide in an amorphous form, and it is feared that these patents may not cover the use of titanium oxide in a crypto-crystalline form.

I am enclosing for your information copies of letters addressed to me by Mr. Hallett under date of October 25th and 29th giving the results of examinations by Dr. Posnjak and Dr. Merwin of samples of titanium oxide manufactured by the Commercial Pigments Corporation and the Titanium Pigment Company respectively.

Yours very truly,

Vice President.

Exhibit 138

Letterhead of

TITAN CO. A/S

GJ/HS.

No. 161

Paris, November 27th. 1928.

Dr. G. Jebsen,
Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N. Y., U.S.A.

Dear Mr. McCarty:

RE: MR. COLE'S "REPORT ON INFRINGEMENT OF TITAN CO.'S PATENTS BY BLUMENFELD".

Mr. Cole's report seems to me to cover the field very well.

I may though make the remark, that I believe it would have been an advantage if he had had the assistance of a chemist of your organisation who has more knowledge of the practical industrial and chemical side of the questions involved, than a patent lawyer can be expected to have.

I may mention one instance:

Mr. Cole on the basis of the article in the "Chemical and Metallurgical Engineering" assumes, that the Commercial Pigment Co. infringes our patents Case—1, Jebsen, and Case—17 Fladmark concerning the formation and the

use of concentrated solutions with an acid contents forming basic or normal salts.

This need not be assumed, as it is quite evident from the description giving the contents of their solution.

It should though be remembered that we actually in St. Louis and Leverkusen use solutions containing 2 to 3% H_2SO_4 more than necessary to form normal salts.

These solutions are probably included in Case—17, but not in Case—1, which unfortunately has not been so well formed.

I agree with Mr. Cole, that (although we have no evidence of infringement at present) attention should be given to a possible infringement of the Titan Co.'s patents concerning reduction, neutralization of the acid contents of the precipitates and the effect of P_2O_5.

I see from Mr. Cole's report, that the possibility of the P_2O_5 originating from the ore may free the Commercial Pigment Co. from infringement of our respective patents.

As I am not a lawyer, I will not venture a definite opinion upon this, but will only mention, that in case Mr. Blumenfeld can not prove that the P_2O_5 is of no effect, he has got a very cheap way of going around a patent protection, so cheap that it represents a danger to the basic principle of the patent institution.

Mr. Blumenfeld's process seems to me so near a copy of our process as anyone can make, who has not actually had entrance to our works.

If he can get through with it without the court acknowledging an infringement, it seems to me that it will be on the basis of legal interpretations and hairsplitting discussions and not on the basis of work and improvements in the art worth acknowledgment.

I make this remark on the basis of the information on broad lines I have of the Blumenfeld method of operation and exclude the peptisation, the effect of which is unclear to me, but which I have been informed from several sources to be of no value.

I do not think, however, that my opinion is of much value, as only a patent expert thoroughly familiar with and experienced in the practise of American patent law can form a competent opinion as to the outcome of a litigation.

With kind regards,

Yours very truly

G. JEBSEN

Exhibit 137

December 5, 1928.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

We are glad to have your letter of November 27th, No. 161, commenting on Mr. Cole's report on the infringement of the Titan Co.'s patents by the users of the Blumenfeld process.

A report of the examination of the Commercial Pigment Company's produce by Dr. Merwin and others was sent to Mr. Cole, and he has been preparing a supplementary report which should be in our hands in a day or two.

With this report at hand we hope to be able to reach an intelligent decision as to the best course for us to pursue in bringing an action for infringement.

We will keep you informed as to developments, and will appreciate your comments and advice.

Yours very truly,

McCarty
Vice President.

Exhibit 138

Letterhead of

PHILIP C. PECK

September 18th, 1929.

Mr. Louis E. Barton,
Titanium Pigment Company, Inc.,
Niagara Falls, New York,

Dear Mr. Barton:

Re: Commercial Pigments Corporation
Blumenfeld Reissues Nos. 17429 and 17430

On September 10, 1929, Commercial Pigments Corporation procured two reissued patents Nos. 17429 and 17430 based on Blumenfeld's original patent No. 1,504,672 of August 12, 1924.

I procured copies of these Reissues to determine the subject matter of any new claims embodied in such patents:

Reissue No. 17429 shows that the specification is the same as that of the original patent No. 1,504,672 with an additional paragraph on page 2 (lines 60-68) to explain the use of a diluent in certain new claims in the nature of a solution of lesser concentration. Claims 1-4 of this reissue are the same as claims 1, 2, 4 and 5 of the original patent (claim 3 having been omitted). New claims 5-12 have been added covering in rather broad terms the gradual mixing or diffusion of a titanium sulphate solution with a solution of lesser concentration, preferably at an elevated temperature. Claim 5 reads as follows:—

Exhibit 138

5. A process for the preparation of titanium dioxide or hydroxide by hydrolytic precipitation, which comprises bringing together a solution of titanium sulfate with a solution of lesser concentration and retarding the rate of admixture so that the titanium sulfate solution is gradually diluted.

Reissue No. 17430 has the same specification as original patent No. 1,504,672, and four new claims covering the same general subject matter of claims 5-12 of Reissue No. 17429, except that the gradual admixture of the two titanium solutions is so retarded that the composite liquid first becomes gradually turbid and then throws down the titanium oxide precipitate. Claim 1 reads as follows:—

1. The preparation of titanium dioxide or hydroxide by hydrolytic precipitation which comprises bringing together a solution of titanium sulfate with a solution of lesser concentration, and retarding the rate of admixture so that the composite liquid first becomes gradually turbid and thereafter throws down the desired precipitate.

I should think it advisable for me to procure digests of the file-records of these two Reissues which may throw some light on the activities of Commercial Pigments Corporation. I will await the instructions of the Patent Committee to whom copies of this letter are forwarded.

Very truly yours,

PHILIP C. PECK

PCP/VP

Exhibit 139

February 11, 1930

Mr. George A. Martin, President
The Sherwin-Williams Co.
Cleveland, Ohio

Dear Mr. Martin:

Since your last visit I have been giving a good deal of thought to your suggestions with respect to titanium pigments.

In order to avoid complications with our other customers it seems to me that the best plan would be for you to join the Titanium Pigment Company in the formation of a new company to manufacture titanium pigments for your own use only. The shares in this company could be owned one-half by the Sherwin-Williams Company and one-half by the Titanium Pigment Company.

The factory could be built at the most desirable point, and operate under a license from the Titanium Pigment Company. This form of operation will be necessary as we have partners in the enterprise, and have definite agreements with others with respect to the patents.

My thought is that the capital should be supplied one-half by your company and one-half by the Titanium Pigment Company. Your company would contribute the market and the Titanium Pigment Company the patents and manufacturing experience.

To preserve the mutuality of the enterprise the product should be sold to the Sherwin-Williams Company at the Titanium Pigment Company's lowest ruling prices to the paint manufacturing trade, profits to be divided equally be-

tween the Sherwin-Williams Company and the Titanium Pigment Company.

I will appreciate an expression of your own views in the matter, and will be glad to discuss the subject with you or others in your company at a convenient time.

I am leaving for California today to be gone for about a month, but in the meantime our engineers will prepare some tentative plans and estimates for a factory.

We are very hopeful that as a result of Mr. Carter's visit to Cleveland our business with your company may continue to grow not only in white lead but in other pigments also.

Yours very truly,

EVANS MCCARTY (signed)
Vice President

Exhibit 140

Letterhead of

TITAN CO. A/S

No. 314.
GJ/AK

Paris, April 1st 1930

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Re the remittance of the 18.000 shares of the Commercial Solvent Co to Sté des Terres Rares.

In receipt of your favour of March 21st, I beg to say that the information in the clipping is somewhat unclear as most informations emanating from Nord et Alpes and Sté des Terres Rares. The information intends though, I believe, to make the reader think that Sté des Terres Rares has received those 18.000 shares of a value of $30.—per share, in part or full compensation for the right to use the processes of Sté des Terres Rares for the manufacture of Titanium Oxide. Nothing is said about the territory involved.

Mr. Thompson told me from a visit in Genoa, that a business connection there, had mentioned that the titanium enterprise of Montecatini was a failure. It was said in such a manner as if it was a common knowledge.

Exhibit 140

On my inquiry, Dr. Kühne told me that his impression of Mr. Donegani was not that the titanium enterprise was a success, but only that it went better now, compared with previously, when he was very dissatisfied.

With kind regards,

Yours very truly,

G. JEBSEN

Exhibit 141

PETER SPENCE & SONS, LIMITED
Farnworth
Mr. IDN

Ref.
Ours: BPL./AS
Yours: WFM:M.

April 12th, 1930.

Attention of Mr. B. F. Meredith, President.

The Titanium Pigment Coy., Inc.
60 John Street,
New York, N.Y.
USA

Dear Sirs,

We have pleasure in enclosing herewith the United States Letter Patent No. 1338473, and also the form of assignment of the patent to yourselves which was sent by you and has been duly executed.

We are glad it has been possible to effect the transfer of this patent to you, and hope you will find it of value in your operation.

With best personal regards,

Sincerely yours,

for PETER SPENCE & SONS, LTD.,
Director

Registered Post.

CC: L. N.
G. T.
P.C.P.

Exhibit 141

UNITED STATES PATENT OFFICE.

HERBERT WRIGLEY AND HOWARD SPENCE, OF MANCHESTER, ENGLAND, ASSIGNORS TO PETER SPENCE & SONS, LIMITED, OF MANCHESTER, LANCASTER, ENGLAND.

PREPARATION OF TITANIUM COMPOUNDS.

1,338,473 Specification of Letters Patent.
PATENTED APRIL 27, 1920.

No Drawing. Application filed February 4, 1919.
Serial No. 275,014.

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Exhibit 142

April 15, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letter of April 1st, No. 314.

There is every indication that the Commercial Solvents Company is taking a very active interest in titanium and the manufacture of titanium products, and we will appreciate it if you will keep us informed of anything that comes to your attention regarding their activities in Europe.

I note the comments of Mr. Thompson and Dr. Kuhne with respect to the Montecatini business.

Yours very truly,

McCarty
Vice President

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Mr. L. E. Barton,
Titanium Pigment Co., Inc., April 26, 1930.
Niagara Falls, N.Y.

Dear Mr. Barton:

My recollection is that we recently received definite advice that the Spence United States Patent #1,338,473 has been acquired by the Titanium Pigment Company. This patent covered two distinct features which may prove advantageous to us. One is the use of steam for promoting the reaction between sulphuric acid and ilmenite, and the other, which is the immediate occasion of my writing you, covers the crystallization of ferrous sulfate out of the solution prior to hydrolysis. As far as we have gone it appears that this crystallization feature was first covered by Spence and that there are no prior patents thereon.

I spoke to Mr. McCarty yesterday about this. I suggested that if after careful search we found that Spence's patent was good, in the sense that there was nothing prior to it, we should after due consideration send a letter to the Commercial Pigments Corporation advising them of our ownership of this patent and warning them against infraction.

If agreeable to you, I shall ask Mr. Peck to get the file wrapper on this patent and make a search to determine our position. The whole matter can then be considered and action taken if desired.

Yours very truly,

C. W. THOMPSON

CWT:EA
c.c.—J.F.W.
P.C.P.

Exhibit 144

Letterhead of
TITAN CO. A/S

No. 329.
GJ/HS.

Paris, August 4th. 1930.
Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e.

Evans Mc.Carty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York, N.Y., U.S.A.

Dear Mr. McCarty :

I saw Mr. Burton Monday the 21st. of July, and during the conversation I asked him what kind of a man Mr. Blumenfeld was. He told me he was a Russian jew with many of the characteristics of this kind. He was a very occupied man undertaking a lot of work, very interested in science, philosophie, pictures—well introduced in scientific circles, a friend of many prominent scientists like Mr. Einstein—very clever, and thought himself to be so. He also considered himself a clever business man, although Mr. Burton did not agree to this. He was not surprised that Mr. Blumenfeld had been taken away from the "Berr" enterprise (the petroleum raffinery). Mr. Burton would never have dreamed of putting Mr. Blumenfeld at the head of a commercial and industrial enterprise of that importance.

Mr. Blumenfeld had lately been checked on several occasions in his industrial and commercial activities, so he thought he would be quite willing to follow any reasonable suggestions re the arrangements we had discussed.

Exhibit 144

Mr. Burton seemed to be quite hopeful that something would come out of the various talks and indicated, that probably the arrangement could be done on the basis of a compromise of our views and his suggestions. He expected to hear from the United States as soon as you had had a talk with the Commercial Pigment Co.'s people, and that we then could carry on our conversations on this side and you on your side.

He intended to leave for the United States in the end of September.

I did not send my letter to Dr. Kühne—preferring after nearer consideration to talk it over verbally with him.—Kühne did not appear very much inclined to make any arrangements at the present of the same reasons as already mentioned by him.

Dr. Kühne received a letter from Dr. Meyer of the Aussig, who asked him to arrange for a meeting of these two and myself. It appears though, due to the plans of Dr. Meyer and Dr. Kühne, that this probably can only take place between the 9th. and the 14th. of September.

Dr. Kühne did not consider the competition of Aussig as very serious and was also of the opinion, that Blumenfeld would have difficulties in finding any financial support in France after the checks he had had. They were interested with Blumenfeld in the exploitation of certain patents for active carbon, and both of them had shares in certain companies. Kühne had seen, that in the Blumenfeld company these shares had been entered in the Balance Sheet at a value far above what the I.G. considered it to be, and he characterized it as "Börsenmanöver". Dr. Kühne had not much confidence in Blumenfeld's reliability in technical matters.

Exhibit 744

My personal thoughts regarding an arrangement with Blumenfeld's group are still the same as when you left.

I remained in London after your departure until Wednesday evening and had two long talks with L.B. Robinson, who had not had much opportunity to talk with his father about Titanium matters.— I gave him a tabula of the production cost figures from St. Louis, and the production costs for Widnes based on the St. Louis figures and English prices, as worked out by Mr. Henrikssen—the same figures as you have in the tabula showing the comparison between St.Louis, Germany, France and England.

I told him, that you and his father had agreed on the proportion in which his company and we should be interested in the British company 25% and 75%—as well as the principle on which the Sulphuric acid should be delivered. I mentioned, that we would have to find an adequate expression for this principle which can be used in the agreement and suggested further that we now should go ahead with the matter as soon as possible.

I developed for him the various advantages and assets, which were brought in from both sides, and asked him to consider what should be a reasonable valuation of this.

I understood, that he had been thinking that the above mentioned division of the interests also solved this question, wherefore I told him, that you on my question answered, that you on talking with his father only had dealt with the principle of division of interest and a basis for the delivery of Sulphuric acid. He asked me, if we wanted "cash", to which I answered him, that personally I would have liked this, but I did not think that the National Lead Co. would put any importance to that, and I would of course be guided by the National Lead Co.'s interest.— Later I understood

that with "cash" he possibly meant proportional shares given to us without cash payment from our side. He mentioned that the Imperial Smelting Company may bring in a site for the factory, to which I remarked, that the value of this could easily be estimated.— He asked my opinion, but I suggested, that he should think over the matter and let me know his views.— He hoped to have an opportunity to talk it over with his father and would then let me know.

He further told me, that he had tried to register the name "British Titan Company", but was prevented from this, as the A.L.M. already had registered this name. He thought we perhaps could take over this name, but suggested we should register "British Titan Products Company", and I have now received a letter from him, that they have registered a private company with a nominal capital of £25.000 under the above title, with for the time being Mr. Robson and L.B. Robinson as directors. He adds: "I have thought a good deal of the points we discussed since you left, but have not yet had a moment in which to talk with my father. I hope, however, to be able to write you fully immediately after the holidays at the end of this week".

In Leverkusen I did find Dr. Raspe very satisfied with the Extra "T" he is now making, which is calcined at a higher temperature than previously, and at the same time is somewhat softer than the previous material, although it has the same tinting strength.

I enclose copy of a letter to Mr. Washburn dealing with some technical questions which may interest you.

Dr Raspe told me, that Dr. Kühne was expecting an answer to his question regarding an alteration for the time being of the licence conditions.—I told Dr. Kühne, that I

could not see this matter in the same light as he—not only because the agreement did not specify anything in this line, but especially because the whole spirit in which the I.G. had started this matter with us was on the basis of co-operation. If it had been clearly pointed out from the beginning, that such responsibility should rest upon us, as he now wanted, there were changes from the St. Louis factory, partly made on the responsibility of both parties, partly solely on the advice of the I.G., which we then would not have done, and instead strictly copied St. Louis.

I further told him your point of view, that in case they insisted upon an alteration, we will ask to run the factory under our management for a certain time.—I pointed out to him at the same time, that we had no desire to do so, and felt that they will be able to reach a satisfactory product themselves, and we would of course very much prefer this.—Dr. Kühne then pointed out, that Mr. Washburn had been there 4 months without being able to show them how to make a satisfactory product.—I tried to explain to him the difference in acting as an advicer, and having the management.—Dr. Raspe pointed out, that they had followed Mr. Washburn's advices in every respect.

At last Dr. Kühne mentioned, that he was aware that the contract did not allow them to demand an alteration, but as the enterprise had not developed according to expectations, we might find it reasonable to make an alteration and facilitate matters for them.

When I told him, that we, were carrying by far the greatest part of the burden of the disappointment, Brüggemann thought, that we had got the material from Leverkusen cheaper than when it was manufactured in Norway. —I told him, that the production costs in Norway had been

rapidly sinking during the last year of its run, and the prices we had to pay for the products from Leverkusen last year were therefore in my opinion higher than they would have been in Fredriksstad.—We had further in the expectation of lower prices arranged our sales prices accordingly—as also was done in Germany—and consequently the results were a great disappointment. Kühne asked me, if the I.G. had promised these production prices, to which I answered, that I had no intention of making them solely responsible for our disappointment in the latter respect.

I further told them confidentially, that comparing the results of the Titangesellschaft with the results of our interests, Titangesellschaft had come better off than we, and mentioned to them some figures in this respect.—This seemed to have a certain effect upon Dr. Kühne and alter his views.

The next day I did find in the Minutes of one of the scientific conferences, at which were present several chemists from various departments of the I.G., that Kühne had mentioned his conversation with you and myself regarding this licence matter. This caused me to ask for another conference with Dr. Kühne and Brüggemann, in which I tried to explain more broadly my view and read to them several of Mr. Washburn's letters to me (of which you have copies) of last December regarding the situation and pointed out to them, that Washburn's advices had not always been followed, as Dr. Raspe had said. I especially pointed out one of Mr. Washburn's recommendations with regard to the addition of Sulphuric acid after Oliver filter No. 1. (see my letter to Mr. Washburn of the 1st. inst.). Dr. Raspe meant that Washburn and he had been discussing hundreds of suggestions, and Dr. Raspe had not been under the impression

that Washburn considered this one to be of such importance. Now after he had learned about the Auer Company's investigations the matter was clear as to what they had to do in this respect.

I thought that was one of the difficulties in the situation that the Germans in most cases wanted scientific explanation and theory for everything and would not be guided only by practical experience.—Of course science has its great value, but practical experience must not be disregarded—theories change often—and in developing an industry of this kind there has not been time for a scientific investigation of every experience.

I mentioned an advice of Mr. Ravnestad, which they only were going to follow now, although it could have been followed long ago. Dr. Raspe: "I do not agree with Mr. Ravnestad's theory in this matter". I told him that whether this theory was right or wrong—the point was the effect. Dr. Kühne agreed with me.

I pointed out again, that there was too much nervousness with regard to the management.

Dr. Raspe had told me, that he lately had been able to reduce the addition of Phosphoric acid to 0.2% P_2O_5—the same as in Titanox—and he now wanted to try without Phosphoric acid. It was my opinion that he should not go further in the reduction of P_2O_5 at the time being, but be content with what he had, which was satisfactory, and concentrate upon the other questions. Dr. Kühne agreed with me.

I told Dr. Kühne, that the reason for this interview was his remark in the scientific conference. If Dr. Kühne's opinion was to be conveyed to the whole organisation of the I.G., which I feared might happen when it was mentioned

in such a conference, then the matter will have to be regarded by us in a different light. I could not accept his view being broadcasted—leaving an impression in the I.G. that the National Lead Company leaves undone an obligation because the I.G. has omitted to put it into the contract.—

Dr. Kühne did not answer this, but he looked rather uncomfortable, and I hope I have stopped further development of that kind.—Dr. Kühne told me, that he had said to Brüggemann, that in case the difficulty with regard to the wetting power was due to watersoluble salts and the method of precipitation, he did not see that I.G. had any basis for an alteration in the license conditions.

I also took up another matter of recent date in which Dr. Raspe had not followed my advice of making certain investigations before he took a certain step. It may turn out all right, but anyhow he had been running a risk of contaminating more than 100 tons of the new Extra "T", and I referred to a letter from me to Dr. Raspe. Dr. Kühne expressed the wish to have a copy of such letters sent him.

Saturday Dr. Raspe informed me by telephone from Dr. Kühne, that Dr. Schütz of Sachtleben had told Dr. Kühne, that the works manager of Thann & Mulhouse had mentioned to one of Sachtleben's men, that Blumenfeld was on the point of closing an agreement with Pisart, and it would probably be done within a month. Dr. Raspe made the suggestion, that I should immediately go to Thann & Mulhouse and see Blumenfeld, who would be there with Dr. Meyer on the 4th. of August. I told Dr. Raspe, that I could not run after Blumenfeld in such a manner and asked to be switched over to Kühne. I found Kühne in agreement with me. The suggestion did not come from him. He would, however,

try to arrange a conference with Dr. Meyer in this week, and I am looking forward to hear from him.

I suggested that the information given to Sachtleben by Blumenfeld's man was intended to be forwarded to Dr. Kühne.

August 5th. 1930.

Dr. Meyer has informed Kühne, that he must go direct from Thann to Aussig and can not pass Leverkusen.—Kühne is going to London next week, and as he is taking his holidays from the middle of September, he had informed Dr. Meyer, that thus a meeting could only take place at the end of October.—I told Dr. Kühne, that I would arrange myself according to him and Dr. Meyer, and on going through his programme for the future he returned to the before mentioned possibility of a meeting on the 11th. or 12th. of September, and will suggest this to Dr. Meyer, which he evidently had not done yet.

A possible arrangement between Pisart and Blumenfeld was evidently not much to Kühne's liking. I told him, that if we did not arrange with Blumenfeld, we must reckon with the possibility of Blumenfeld falling into the arms of Pisart. On the other hand one should expect that Blumenfeld will await the results of your conversations with the Commercial Solvent Company's people, although I do not know what is to be expected from Mr. Blumenfeld.

Dr. Kühne told me, that Mr. Chase had said to him, that the Commercial Solvent could exercise sufficient influence on Blumenfeld.

I am asking myself if Dr. Kühne intentionally is retarding his conversations with Dr. Meyer to the purpose,

Exhibit 144

that in case all the other parties have come to an understanding, he will make use of his position that a settlement will be dependent upon the I.G. In such a case the possibility of Pisart making an arrangement with Blumenfeld may influence him.

Dr. Kühne told me, that he would like to meet W. S. Robinson regarding Lithopone, and asked if you were still in London. Pisart had taken the attitude, that they should let Robinson alone for the time being, as Pisart considered him not of such importance.

L. B. Robinson told me in London, that Pisart had wanted to bind Ctr for a long period of years, which they had declined.

I told Dr. Kühne to-day, that if I could be of any service to him in the matter, I should be glad, and he said he was meeting Dr. Schütz and Director Holm to-day, and if they agreed, he w[illegible] letter of introduction to Mr. Robinson.

If the lette[illegible] L. B. Robinson should not make it advisable for me to go to London, I will go to Norway at the end of this week in order to go through matters there, and if possible take a week off for holidays, although I am afraid there will be no time for it, as I may have to go to Sogndal, which alone requires a week.

With my kindest regards to Mrs. McCarty and yourself, and hoping you had a good passage.

Yours Sincerely

G. JEBSEN.

Exhibit 145

August 5, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Mr. Chase came in here yesterday with a cable presumably from Mr. Burton telling him that a company called the British Titan Products Company had been registered in Great Britain.

They were puzzled and somewhat alarmed by this new development, but I told Mr. Chase that the company had been registered by interests friendly to us which reassured him somewhat.

There have been no new developments here, and will not be until next week when Mr. Ticknor returns.

Yours very truly,

McCarty
Vice President

Exhibit 146

August 13, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your very interesting letter of the 4th, but have time today for only a brief reply.

With respect to the British situation I have nothing to add to my letter of the 8th. Mr. W. S. Robinson expects to make us a visit in September, and I hope that by that time you and Mr. L.B. Robinson may be able to work out some tentative plans.

There is nothing new with respect to the negotiations with the Commercial Solvents Company. I have had two talks with Mr. Ticknor, but cannot say that any progress has been made. He is very anxious for a consolidation, but we have not reached a definite conclusion as to where our best interest lies. I hope to have an opportunity to discuss the subject with Mr. Cornish tomorrow, and we may reach some conclusion.

I am surprised to learn that Blumenfeld has been negotiating with Pisart while the negotiations with us were in progress. I do not think that this news will please Mr. Ticknor as he has stated that they will have no difficulty in controlling Blumenfeld. I will speak to him about it at the first opportunity.

Reports made to me since my return by Mr. Hagar lead me to have less concern with respect to the progress of titanium lithopones than I had at one time.

Exhibit 146

I note your account of your conversations with Dr. Kuhne and Dr. Raspe.

I had an opportunity for a long talk with Mr. Washburn last week, and he emphatically sustained the position I took in Leverkusen that as a matter of practical procedure the thing to do was to install immediately another evaporator for evaporating sodium sulphide solutions. He further stated that neither the cost of installation nor of operating such an evaporator was prohibitive. I asked Mr. Washburn to write me his views on this subject so I could pass the letter along to you, but so far he has not done so.

The whole situation is very interesting at the moment, and I will keep you advised of further developments.

Yours very truly,

McCarty
Vice President

Exhibit 147

August 20, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Since writing you on the 13th I have had another talk with Mr. Ticknor, as a result of which I think that our ideas with respect to a possible consolidation of the two companies are a little more definite. If Mr. Ticknor is willing to form a consolidation on the basis of present position and value of the two companies I think something can be done, but if he adheres to his present position of insisting upon a half interest in the business contributing in cash what is necessary to make up the difference in value of the two companies, there is I think little probability of our getting together. He is away from the city on a holiday with his family, but will probably return before the end of the month when no doubt discussions will again be renewed.

I called Mr. Ticknor's attention to the report that has reached you through Dr. Schutz and Dr. Kuhne that Blumenfeld was on the point of closing an agreement with Pisart and pointed out that we did not think Blumenfeld should approach Pisart during the progress of present negotiations with the Commercial Solvent Company. Mr. Ticknor expressed the opinion that the report was probably incorrect but promised however to cable Mr. Burton and ask for information regarding it.

Exhibit 147

In my letter of the 13th I stated that I now had less concern with respect to the progress of titanium lithopones than I had at one time. This opinion was confirmed by a conversation I had yesterday with Mr. Thompson of E. I. duPont de Nemours & Company who told me that they did not consider that titanium lithopones had an important future.

I will keep you advised of further developments.

Yours very truly,

McCARTY
Vice President

Exhibit 148

September 3, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la pepiniere, Paris, France

Dear Dr. Jebsen:

I have just returned from an interview with Mr. Ticknor and Mr. Chase in which the positions of the Commercial Pigments Company and the Titanium Pigment Company were again discussed at some length.

The differences of opinion mentioned in my letter to you of August 20th still exist, and an actual merger of the two companies does not seem close at hand. There is no doubt, however, that these continuing conversations are bringing us closer together in many ways, and the atmosphere may at some time clear very quickly.

We have been discussing the purchase of a portion of our ilmenite supply from Travancore Minerals Ltd., which as you know is largely owned by the Commercial Pigments Company, and Mr. Burton has suggested a pooling of patents which may be an advantageous thing to do. At any rate we are exploring the possibilities of the suggestion.

Arrangements in Europe must, of course, depend upon whether or not the American companies can come to any satisfactory arrangements, but as the atmosphere over here is still a friendly one I would suggest that you keep the negotiations alive with Mr. Burton in as near to the same spirit as possible.

In the meantime, I believe that it is desirable for us to get the English project under way as soon as possible.

Exhibit 148

In a previous letter I wrote you that Mr. W. S. Robinson expected to visit us in September. I now learn that he expects to sail on or about the fifteenth. I do not know what progress you and Mr. L. B. Robinson have made, but have no doubt you will have something definite to suggest by the time Mr. W. S. Robinson leaves.

At my request Mr. Ticknor cabled Mr. Burton the report contained in your letter to me of August 4th that Blumenfeld was about to close an agreement with Pisart, and I am now enclosing copy of a telegram sent you today giving the gist of Mr. Burton's reply.

With kind regards, I am,

Your very truly,

McCARTY
Vice President

P. S. Mr. Robinson cabled about a week ago that Cramer of Du Pont was taking an active interest in the possibility of securing the Tilden-Smith interests in titanium. This for your information.

Exhibit 149

No. 333.

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, September 13th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I have just received your very interesting letter of September 3rd.

I did not get time to see Mr. Burton in London and leave tonight for Zurich to meet Dr. Kühne and Dr. Mayer of Aussig, who have a meeting there regarding other interests they have together.

I believe with you that it is desirable for us to get the English project on the way as soon as possible, and hope that Mr. L.B. Robinson's visit here will give an opportunity to get the license agreement settled. With regard to the other questions, I presume that they will be settled by you and W.S. over there. It is somewhat difficult to go ahead on this side, as long as the attitude of the Robinsons has been as you will have understood from my two previous letters.

Mr. L.B. Robinson asked me during my stay in London, if it was not so, that you considered the Tilden Smith patents and methods to be of no or very little interest. I told him that the methods seemed to infringe many of our pat-

euts and that I understood that you considered that Tilden Smith's interest in titanium has very little to bring us.

Mr. L.B. Robinson did, though, not inform me that Cramer of Du Pont was taking an active interest in Tilden Smith's process. Under such circumstances, they may have a nuisance value.

Apart from that—the only one of their patents which may have a small interest for us, is, as far as I know, only the one which covers the addition of a small amount of Boric Acid to the TiO2 before calcination. Mr. Ryan has made investigations regarding this matter, so you have the information in this respect nearest at hand.

Their practical operations which were rather crude, had, though, the advantage of not using Dorr-vats for the washing of the wet pigment. Our experience in Leverkusen with Dorr-vats is, as you know, not very satisfactory because of the very heavy repairs in the first year or two, an experience which, I understand, you also have had in U.S.A. and which therefore may be considered unavoidable. We need, however, not acquire Tilden Smith's interest in order to make use of filters or the apparatus which Mr. Moses has worked out, to replace the Dorr vats—for the washing of the wet pigment.

I am writing you this in haste, that it may reach you before Mr. W.S. Robinson leaves New York.

I cannot help the feeling that a purchase by you of Ilmenite from Travancore Minerals, enabling them to reduce their production costs by obtaining a larger production, may handicap the development of the Sogndal mine, the production costs of which also are dependent upon larger tonnages. I feel confident that the question of reddening of the product from the Norwegian ore has been overcome and that you ought to get thoroughly investigated the pos-

sibility of the Norwegian ore also for use in U.S.A., before an arrangement is done by which a supply from Norway to U.S.A. would be excluded and you help Travancore to a larger outlet.

I may recall our conversation a year or two back, when you told me that it had not been possible to obtain from Mr. Washburn or anybody else, an exact comparison between the sand ore and the Norwegian ore as to economy. We have now a certain ambunt of experience in Leverkusen, and from this I think the process as it works does not make full use of the advantages of the Norwegian ore. Mr. Ravnestad is working also on this matter in Leverkusen and interesting experiments are on the way in this respect, the results of which, it seems, that we will have in the course of this year, and we may then in the first quarter of next year be able to adjust the process in Leverkusen in this respect, so that we will get a basis for a comparison between the two ores.

In the spring next year we will also have the production of an ore with 47% TiO_2.

Dr. Gardner is now in Paris. He was, the day before yesterday, together with Mr. Ravner who has shown him a little of Paris, and he is just calling in this moment. I invited him for lunch and we are now going to Rochambeau.

With kind regards,

Yours very truly,

G. JEBSEN

P.S.—Dr. Gardner asks me to send you his kind regards and tell you that he enjoyed very much his visit to the Leverkusen factory with Dr. Raspe.

Exhibit 150

September 26, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letter of September 13, No. 333, and note your comment with respect to the purchase of ore from Travancore Minerals.

This question is more or less involved in my negotiations with Mr. Ticknor, but so far the price suggested has not been tempting. In fact, it is about the same as that we have been paying Hopkins & Williams.

With St. Louis operating on Indian ore and Leverkusen operating on Norwegian ore we should before long be able to determine the question of relative values.

Mr. Washburn has sent me a copy of his letter to you of September 19th in which he gives you some figures as to actual recoveries when operating on Indian ilmenite and also some figures as to the quantity of acid employed. I presume that similar figures can be obtained from Leverkusen as soon as their operations are on a regular basis.

I note also your comments with respect to the patents belonging to the Tilden Smith Estate. We are negotiating with Mr. Magennis, one of the trustees of Mr. Tilden Smith's estate, for the purchase of some of the securities belonging to the estate, and have suggested that if we make the purchase the titanium patents be thrown in without extra compensation. I do not know how this will be received by Mr. Magennis. Much depends upon his view of

the prices offered for the shares in Associated Lead Manufacturers Ltd., and other companies.

The negotiations are being conducted by Mr. W. S. Robinson, and we shall probably have something definite before he leaves for Australia.

I have not seen Dr. Gardner since his return, but have received a note from him in which he expresses great appreciation of the courtesies shown him in Paris and Leverkusen.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 151

September 26, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Many thanks for your interesting letter of September 16th from Zurich telling of your conference with Dr. Mayer, Dr. Kulme and Mr. Andre.

I have not written you regarding the negotiations with Mr. Ticknor since September 3rd as there have really been no developments of importance. As the differences of opinion between Mr. Ticknor and myself which were mentioned in my previous correspondence seem to stand in the way of an actual merger of the two companies, Mr. Ticknor proposed a pooling of the patents belonging to both companies by whatever method our patent lawyers thought would be best suited to the particular circumstances.

As a result of this suggestion the matter was referred to the counsel for the Commercial Pigments Company and Mr. Peck counsel for the Titanium Pigment Company. These gentlemen have not yet made a report.

Personally, I think there is very little probability of our coming to any arrangement with respect to the patents as I think that the Titanium Pigment Company would surrender far more than they would gain. I am quite willing, however, to explore the position as a matter of courtesy to Mr. Ticknor if for no other reason.

It may be that finding an agreement as to patents impossible Mr. Ticknor may accept my views with respect to

an actual merger of the two companies or he may drop the matter entirely for the present. It is difficult to tell just now what turn the negotiations will take, but the outlook for a merger of the two companies does not seem very bright to me at the moment.

If we are unable to come to any terms with the Commercial Pigments Company in America any agreement in Europe will naturally be out of the question.

I will keep you advised of further developments.

Yours very truly,

Vice President

Exhibit 152

October 1, 1930.

Mr. Evans McCarty, Vice President,
National Lead Company, —
111 Broadway,
New York City, N.Y.

Dear Mr. McCarty:

With this you will find a copy of a letter from Mr. Barton together with a copy of a letter from Peter Spence & Sons, Limited, dated August 21, 1930.

The question of obtaining the proof referred to in these two letters can be attended to by Mr. Barton and me. I am simply sending these to you with the thought that you might like to advise Mr. Tichenor, President of the Commercial Solvents Corporation, of the fact that we own this Spence patent and ask him if he has any comments to make. However, perhaps you would have some other way of handling the matter.

Very truly yours,

G. W. THOMPSON

GWT-EA
Enclosures

Exhibit 153

October 3, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

You will remember my telling you earlier in the year that the Titanium Pigment Company had acquired from Messrs. Peter Spence & Sons Ltd., their American patent covering the removal of iron by crystallization from titanium sulphate solutions.

This patent is believed to antedate all others on this subject. If valid it is being infringed by the Commercial Pigments Company, and it is possible that some consideration may have to be given to the corresponding European patent although as I remember it you thought that your work in Norway was at least as early as that of Messrs. Peter Spence & Sons.

In this connection you will be interested in the enclosed copy of a letter addressed to the Titanium Pigment Company by Messrs. Peter Spence & Sons Ltd., under date of August 21, 1930 referring to the proof they are prepared to furnish of the priority of the invention.

Will appreciate your comments with respect to this.

Yours very truly,

McCarty
Vice President

Letter referred to
in Dr. Thompson's file.

925

Exhibit 154

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, October 8th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your various letters of September 26th.

I have read with much interest your comments as to your negotiations with Mr. Ticknor.

I am still, I may say, counting my buttons as to the advisability of the proposed merger. Awaiting the developments in U.S.A. there is, I suppose, not much to be done on this side, except occasionally exploring the matter further and keeping the connections going.

I shall look forward with much interest to your further information.

I have noted what you say about the ore question and beg to refer to my previous letters in which I mention that the more or less final data from Leverkusen will presumably not be available before the spring.

Many thanks for your information as to the patents belonging to the Tilden Smith estate.

Regarding Mr. Ravnestad's process there is no special news of interest. Mr. Ravnestad arrived the day before

yesterday from Leverkusen to work here for a fortnight with the patents. In the meantime Mr. Oppegaard will carry out the work outlined by him. The preliminary experiment in the Pilot plant has given promising results.

Dr. Specht has, early in the year, applied to the Titan Co for a position. Dr. Raspe informed me that they had not taken him in Leverkusen. Dr. Kühne knew him, as he once has been working under him. I do not remember, for which reasons Dr. Raspe thought it was not advisable neither for Titangesellschaft nor for Titan Co A/S to employ him, and I shall, on my next visit to Leverkusen, inquire about it and inform you correspondingly.

With regard to the negotiations with the Imperial Smelting Corporation, I beg to refer to my other letter of today.

With kind regards,

Yours very truly,

G. JEBSEN.

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Exhibit 155

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

NOVEMBER 21, 1930

JEBSEN
SOCITITANE
PARIS

MERGER WISAZCULOH PIGMENTS
LAHZOPYOHM OJTEKHYENF FILEKIMYZA
BOAHZAFHEV TUGMYULTAD FILEKANYOH
LAHZOOGAHJ MCCARTY

MERGER WITH COMMERCIAL PIGMENTS NOW SEEMS PROBABLE IF EUROPEAN INTERESTS CAN BE ADJUSTED STOP DO YOU THINK EUROPEAN ARRANGEMENT NOW PRACTICABLE

Exhibit 156

November 25, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Many thanks for your confidential letter of November 14th, No. 360, which partially answers the question asked in my cable of the 21st a copy of which is enclosed.

My conversations with Mr. Ticknor and Mr. Chase have continued with the result that our ideas now seem so close together that an understanding may be quite possible if the European interests can be adjusted.

If an agreement is reached here I think Mr. Chase intends to go over to your side, and deal with the European questions himself. This will be advantageous for you as he will speak with considerable authority.

I do not know what would be the best form for the European arrangement to take, and will naturally be guided by your suggestions. My purpose in sending you a cable last week was to give you as much time as possible to consider the matter.

Mr. Pisart made his usual visit to New York this autumn, and sailed for home on the Majestic last week. He called on us before sailing, and we had a short talk about the titanium position. He seemed to be familiar with the fact that we were planning to develop the British business in connection with Mr. Robinson. He stated moreover that his interest in titanium continues, but that as a practical

matter the problem of the disposal of the ferrous sulphate seemed to him quite a serious one in France.

I told him that we had given some thought to the south of France as a possible location for the manufacture of titanium oxide owing to the market that exists there for ferrous sulphate. This seemed to be a new thought to him, and he raised the objection that Marseilles was far from the centers of distribution for the finished product, and that labor conditions in the south of France were unsatisfactory.

The Blumenfeld people have recently perfected a method of making composite pigments that would seem to permit the shipment of the pure uncalcined oxide in the form of filter cake and the completion of the process at a point better located with the supply of barytes and the distribution of the finished product. I do not know whether you are familiar with this development or not, but it has seemed to me it might have possibilities in France.

The Blumenfeld people over here realize that nothing can be done with this idea until our own composite pigment patents expire.

Yours very truly,

McCARTY
Vice President

Exhibit 157

Letterhead of

TITAN CO. A/S

No. 370.
GJ/AK

Paris, December 10th 1930

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of November 25th, which I have read with much interest.

I am glad to hear that Mr. Chase intends to come over to Europe, as, from your characteristic of him last summer, I presume this will facilitate matters considerably.

I much appreciate your information with regard to Mr. Pisart's visit. Is his talk with you to be understood in such a way that he still entertains the idea of coming to an arrangement with us, or do you think it was merely in order to try to gather information?

In Brussels at the Superphosphate Meeting, I told Mr. Berr that I had telephoned him but he had been away. (He regretted he had not been informed of this). I only had intended to pay him a visit of courtesy; the report of Mr. Geschwind had not shown satisfactory results; there were, though, some points in the report with which I did not agree, but I thought the matter anyhow was not ripe for decision,

as it would be better to await the results of our developments with pure TiO2. Mr. Berr mentioned that anyhow this was not the time to take up new enterprises.

I am told by Mr. Gilbert that Mr. Berr has his hands full up this autumn, being somewhat disturbed by the market decline.

Mr. Pisart has, to my knowledge, no facilities to offer in the South of France (except his barytes mine).

I have been wondering lately, if we should not try to make Pisart our customer, by giving him favourable conditions. This matter will, though, not be ripe before we are manufacturing satisfactory TiO2, and it may even then be of less interest if titanated Lithopone has no future.

I was told by Mr. L.B. Robinson that the acquisition of the Tilden Smith interest had not been consummated and that the estate was offering the process, more or less on the open market. If we make an arrangement with Blumenfeld, Pisart's mind may be directed on this process, but I wonder if it is likely that he will be interested, in view of his hesitation to take up Blumenfeld—or his non-activity in this direction is due to Blumenfeld keeping back or Pisart having had his hands full with the metal situation?

The method of the Blumenfeld people to make a filter cake of TiO2 in one spot and calcine it with a mixture of Barytes in another place, was mentioned during our interviews with Blumenfeld last summer. It is, though, difficult to form an opinion of the real value of this, without examining the resulting products. From a theoretical point of view it seems to give little or no advantages compared with the mechanical mixture.

Dr. Kühne writes me today that he has now received a sample from Dr. Mayer, of the new Aussig product. A preliminary investigation has given the following results:

Exhibit 157.

Tinting strength: 930
Colour: Somewhat less good than American TiO2
Oil Abs.: 19.

A more complete analysis will be sent me as soon as possible. I have written to Dr. Kühne that I am much interested to know the wetting power and dispersion qualities. The tinting strength is of course very low, but, with the low oil absorption, it may still be a competitive product for certain purposes, if the wetting and dispersion are good.

With kindest regards,

Yours very truly,

G. JEBSEN

9333

Exhibit 158

WESTERN UNION
CABLEGRAM

1930 DEC 2 PM 7 09

DW352A KOELN 36 3 0020

LCD MEEARTY LEADCO NEWYORK,

MEEARTY C/O NATIONAL LEAD CO,

111 BWAY

CONSIDER WE OUGHT TRY MAKE ARRANGE-
MENT EUROPE BLUMENFELD STOP KUEHNE
ALSO AGREE THIS STOP BURTON EXPECTED
HEAR FROM TICKNOR SHORTLY PLEASE
CABLE WHEN YOU CONSIDER I SHALL
START AGAIN WITH BURTON JEBSEN.

Exhibit 159

December 16, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Your telegram of the 2nd instant was received in due course, and this morning I have your letter of December 5th from Paris.

Negotiations with the Commercial Pigments Company proceed slowly probably because we are doing nothing to bring them to a quick conclusion. Each time we meet, however, we seem to get closer together.

If arrangements are made between the Titanium Pigment Company and the Commercial Pigments Company they will probably take the form either of an actual consolidation of the two businesses or of a cross licensing agreement which will omit the Titanium Pigment Company's composite pigment patents. These patents have only a few years to run, and we wish the Titanium Pigment Company to have the full advantage of them.

In my letter to you of yesterday I outlined what was in my mind with respect to the English position. I have no definite thought with respect to the French business.

Last summer you will remember we considered a French company that could do the business in France, Belgium and Holland. It was also our thought that Dr. Kuhne and Dr. Mayer could come to some arrangement with respect to central Europe. We will have to depend largely upon you to guide us in these matters.

Exhibit 159

Perhaps the problems will be simplified if in dealing with the Continental European business we retain for ourselves and the I. G. the composite igment business, and include only the patents and processes for pure TiO2 in our arrangements with the Blumenfeld group.

Time does not permit me to write more today, but I thought time might be saved by making these suggestions for your consideration.

With best wishes for Christmas and the New Year, I am with kind regards,

Yours very truly,

Vice President

Exhibit 160

Letterhead of

TITAN CO. A/S

GJ/AK.

Paris, December 10th 1930

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

CONFIDENTIAL.

Dear Mr. McCarty,

The question of an arrangement with Blumenfeld on this side is so involved, that I do not hope to be able to deal with it in one letter and at once.

Permit me today to mention one point regarding which I hope you could help me somewhat.

The question is, what position we will have to reserve for Blumenfeld. I presume that he will not be satisfied if he is put entirely out of the Titanium enterprise in the future.

In a talk with Dr. Kühne, he expressed that we ought only to employ Blumenfeld as scientific adviser or cooperator, although he did not seem to regard him highly even as such. I think he is right in so far as Blumenfeld is quite well known in chemical and industrial circles on the Continent, and also partly in England and his reputation is not such, as far as I understand, that it would be to the credit of the future companies if he should have any position on the Board or otherwise, of an official character.

Some of the prominent men of his group have also been qualified in the same manner to me. According to a conversation with Mr. Burton of which I wrote you, it may be that Mr. Burton is aware of this.

Presuming that the Blumenfeld group, with a 20% interest, will request a representation on the Board, we ought to take care that such representation is of a desirable character.

It will be rather difficult for me, who may have to meet Blumenfeld quite considerably in the future, in connection with these matters, to approach the above subject, and I may ask you, if you are on such terms with Mr. Chase, that you could bring it forward.

I had a talk with Mr. Gilbert the other day and, although he may be somewhat prejudiced, I think his attitude is worth to be considered. He thought the effect of having Blumenfeld or some of the other gentlemen of Sté Nord & Alpes or Sté des Terres Rares, on the Board, would be very bad and impair the reputation of the Company, especially considering that he has been practically thrown out by St. Gobain from the Berr enterprise. You will also remember that the Berr enterprise was the cause of a very stormy meeting of St. Gobain.

If we let the Blumenfeld group have a 20% interest in a French and English company, there also ought to be some restrictions as to the sale of those shares. Sté Nord & Alpes have, as you know, made a considerable use of the name of St. Gobain and of their American associations, in order to boom the price of their shares here in France, and also in this connection we ought to try to protect ourselves. This last may, though, be somewhat difficult. Mr.

Gilbert even compared the manipulations which have been done with the shares or Nord & Alpes, with the affairs of the Banque Oustric and those of Mme Hanau, as to their character.

With kindest regards,

Yours very truly,

G. JEBSEN.

Exhibit 161

December 24, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letters of December 10th, Nos. 370 and 371, dealing with the subject of the possible consolidation of our European interests with those of the Blumenfeld group. In the meantime you will have received my letter of December 16th making such suggestions as occurred to me at that time.

I do not know what arrangements can be made with Blumenfeld, but do not think it will be necessary to have him as a director in either of the two companies we have in mind. I have an idea, however, that the Commercial Solvents people contemplate giving him shares in these companies as payment for his patents.

The next time I see Mr. Chase I will show him your letters, and he may have some suggestions. In any event, I think you can depend upon Mr. Burton to deal with Blumenfeld. Mr. Chase is, I think, writing Mr. Burton with respect to the progress that has been made up to date, and it will probably be of interest for you to keep in touch with him and exchange views as to the best plan to be followed.

As matters stand at present all arrangements must be made subject to the conditions of the License Agreement of July 1920. This presents some difficulties particularly with

respect to the royalties to be paid on account of excess production. As far as the National Lead Company itself is concerned these payments are simply made from one pocket into the other, but that is not true with respect to our partners in the Titanium Pigment Company and the Titan Co. Inc.

It now seems to me that the easiest way to adjust the American position will be by a cross-licensing agreement with the Commercial Pigments Co. We would not want to do this, however, until some arrangement had been made to adjust the European position. I have no very definite thought as to how this European adjustment can best be made.

If you can work out a definite scheme for proposal to Mr. Chase and Mr. Burton the whole matter can be expedited.

I think that for the moment we can look upon Mr. Pisart purely as a prospective customer.

With kind regards and best wishes for the New Year, I am,

Yours very truly,

Vice President.

Exhibit 162

January 7, 1931

Mr. Evans McCarty, Vice President,
National Lead Company,
111 Broadway, New York.

Dear Mr. McCarty:

Dr. Thompson suggested that I write you concerning the status of the Wrigley & Spence U. S. patent 1,338,473 covering the removal of iron by crystallization from ilmenite solutions, which we now own and which does not expire until April 27, 1937.

The only prior publication anticipating Wrigley & Spence which we know of was that of the Norwegian patent 27,619 issued February 5, 1917. Mr. Peck has explained that according to our patent law a U. S. patent is good if applied for not more than two years subsequent to a printed publication describing the same, in this or any foreign country, provided that the discovery or invention was made prior to such publication. The Wrigley & Spence U. S. application was filed February 4, 1919, lacking one day of being two years after the issue of the Norwegian patent.

We have recently received from Howard Spence, one of the inventors, his sworn statement, legalized by the United States Consul, to the effect that their invention was put into practise during the year 1916 and that copperas produced according to the invention was sold during the period June to November 1916. Extracts from the notes of Herbert Wrigley, now deceased, and from the sales book of the Spence Company are included in his statement.

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There appears therefore to be no doubt concerning the validity of the Wrigley & Spence patent, which we believe the Commercial Pigments Corporation is infringing.

I am enclosing a copy of my letter of January 6, 1931 to Mr. Washburn concerning the Blumenfeld U.S. patents.

Respectfully,

L. W. RYAN

cc: Dr. Thompson

Exhibit 163

Feb. 18, 1931.

Dr. G. Jebsen,
Paris, France.

Dear Doctor Jebsen:

You will no doubt be surprised to receive a letter from me on the stationery of the Gundersen Clinic. I came up here from St. Louis to be looked over by the physicians before going to California with the expectation that I would be here only a few days. The physicians have recommended, however, that I stay here a while for treatment, so that I have abandoned my trip to California and will take a little holiday later on somewhere nearer to New York.

I brought your letter of January 16, #385, with me as I have wanted to write you at the first opportunity regarding my conversation with Mr. Chase and the present position of the negotiations. As you of course realize, we have two partially distinct matters to deal with in Europe; first, the formation of the English Company, and second, the proposed merger with the Blumfeld interests.

With respect to the English Company I think that we can now go ahead along the lines discussed in my last letters and in yours of January 16. The two important things to decide with respect to the English Company are, first, the location of the works, and second, the sulphuric acid contract. A letter received from Mr. L. B. Robinson under date of February 6 states that the results from the first well put down in Avonmouth are very encouraging, but that as yet no analysis of the water had been made nor had the amount of flow been estimated. While at the

beginning it is intended that the British Titan Products Company shall manufacture only pure titanium oxide, I think we should contemplate that it will in the future manufacture all titanium products in which we are interested. For the present, of course, we will reserve to the Titan Company, Incorporated the sale of composite pigments. I note your comment with respect to the purchases of pure titanium oxide by the British Titan Products Company. It will, of course, be more interesting to procure this material from Leverkussen until such time as the English factory is in operation, but in the event that a merger is arranged with the Blumfeld interest it may be necessary to take a certain quantity from Montecatini until such time as market can be found elsewhere for the Italian product.

With respect to the merger with the Blumfeld interest I really have not very definite view, but I am at the moment inclined of the opinion that merger arrangement on equitable terms would be an advantage. In this connection I am sending you a copy of a letter addressed to me by Mr. Marsh Chase of the Commercial Pigment Company under date of February 2 and a copy of my reply. These letters, I think, give a very fair statement of the position as it is at present. You, of course, will have only an indirect interest in the Ward Leonard options and the Bush property, both of which are located in Virginia, but the remainder of the letter deals with matters in which you have a direct interest. You will note from Mr. Chase's letter that tentative basis has been established for dealing with the English position, although as yet no agreement has been reached as to the form in which each of the parties shall contribute their share of the capital. It is a little difficult to account for the interest shown by the Commercial Solvents Company in the

Exhibit 163

European business as only a portion of the twenty-four percent allotted to the Blumfeld interest in the English Company would go to their subsidiary, the Commercial Pigment Company. Apparently they consider that it will be helpful to their American interest if they can bring about a satisfactory merger of the European interest, and in negotiating the merger their influence, of course, will be very helpful.

Mr. L. B. Robinson is agreeable to the plan in so far as it has been developed and Mr. W. S. Robinson, who left Australia on February 12, will be back in London before negotiations are completed. If the Imperial Chemical Corporation should come into the picture in any way Mr. W. S. Robinson would be very helpful in dealing with them.

You will notice on the correspondence between Mr. Chase and myself that in the event that a satisfactory merger of European interest can be made it is proposed to deal with the American situation by means of a cross-licensing agreement or an actual merger of the two companies. Now that Mr. Washburn's process for the manufacture of pure titanium oxide seems to be a demonstrated success the advantages to us in an arrangement with the Commercial Pigment Company do not appear quite so great as they did at first. In an exchange of patents we will probably give more than we shall receive but at the same time the Commercial Solvents Company is in a strong position financially and is ably managed, so that it may be to our interest to come to some arrangement with them. As the matter now stands, therefore, I think that if European arrangements can be made that meet with your approval and which you can recommend to us that it will be possible to deal with the American situation successfully. As I

stated in my last letter to Mr. Chase we are trying to keep an open mind as long as possible.

This letter should reach you a short time before the arrival of Mr. Tichnor and Mr. Chase and thus give you some opportunity to formulate your own ideas as to the best policy to be pursued.

With kind regards, I am

Yours very truly,

EM
MT

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Exhibit 164

COPY

COMMERCIAL PIGMENTS CORPORATION
230 Park Avenue
New York

February 2, 1931

Mr. Evans McCarty
Park Plaza Hotel
St. Louis, Mo.

Dear Mr. McCarty:

Referring to our talk on Friday, I am writing you this letter so that it can serve as an outline of the conclusions we came to at that time, and I will be glad if you will write me a note saying whether this covers the situation or not.

Ward Leonard Option

That you were not interested in these properties except possibly the Burleigh and are willing to hand back the remaining options to Mr. Burns. Our position is the same. We will attempt to obtain a year option on the Burleigh farm, so that the question of drilling on this property can be considered.

Bush Property

We have obtained from Hutchins an option on the Bush lease. A copy of the option will be sent to Mr. Hallett and the arrangement will be the same with this as with the Ward Leonard options. If we both desire to go ahead with development it will be done by each owning a half interest.

But each shall have the privilege of proceeding alone if the other does not want to join.

Ilmenite for 1931 and 1932 Shipping Season

This shipping season starts in October of 1931. The sand gathering program for this shipping season should be planned in March or April of this year. We are desirous of including your requirements and in general you are disposed to purchase from Travancore at equal cost to yourself. We are open to considering an arrangement covering a period of years for supplying you ilmenite from Travancore at the same price as we pay. We understand that you have arranged for part of your requirements for 1931-1932 and 1932-1933. It is also understood that the greater the quantity taken from Travancore the lower the price. You will endeavor to let us know as soon as possible your decision in regard to ilmenite, if possible some time in March.

English and Continental TiO2

We are in agreement as to the advisability of a cooperative effort in development abroad. We are in agreement in regard to England on the following basis:

24% — Blumenfeld Interest
51% — Yourselves
25% — Imperial Smelting

The above, of course, subject to our associates approval, which we expect to obtain. It is understood the Imperial Smelting have agreed in principle. The Continental situation is to be worked out between Meyer, Kuhne, Jebsen, Blumenfeld and Montecatini. We are to use our best en-

deavors to reach a workable arrangement—and we understand that Dr. Jebsen is thoroughly acquainted with your views.

We are in agreement that the English plant, if built, should incorporate all the best features of the various processes. To do this, will necessitate an arrangement to take care of the several existing obligations in regard to exchange of technical information. Any cooperative effort in which the technical knowledge of both sides is used will result in both sides knowing what the other is doing. In order to meet this situation in the U. S. we are in general agreement that an arrangement of cross-licensing on existing patents exclusive of composite pigment patents is desirable. This cross-licensing not to include inventions hereafter patented. However, generally speaking there is a willingness on the part of both of us to license each other for such new invention on a royalty basis to be determined.

Unfortunately our several plans for being in New York are such that there will not be an opportunity to reduce our discussions to a more definite basis until some time in May. However, we believe that the foreign situation should be dealt with in the very near future. As I told you, Mr. Ticknor and I expect to go to France about the first of March, and we think that during our stay there this situation can be definitely settled especially since I understand from you that Dr. Kuhne and Dr. Jebsen are now in a position to discuss a definite plan.

Our present understanding can probably best be expressed as one in which we are both sufficiently favorably disposed to enter into the above arrangement in regard to the U. S. so negotiations between Drs. Kuhne and Jebsen and the Blumenfeld licensees can now be undertaken, looking to a settled foreign program.

Exhibit 164

I think it might be well if you would advise Messrs. Kuhne and Jebsen as to our plans and we will write to Mr. Burton asking him to get in touch with them and to arrange for a meeting in Paris.

In regard to the English situation, there seems to be nothing more to be done at present except for us to get our associates' approval of the tentative arrangement which we have discussed. As agreed upon, any other British interests will be considered only after the present plan is put into effect.

Yours very sincerely,

M. F. CHASE (signed)
Vice President

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Exhibit 165

COPY

National Lead Co. St. Louis Branch
(AT)

February 5th. 1931.

Mr. March Chase, Vice President,
Commercial Pigments Corporation,
230 Park Avenue,
New York.

Dear Mr. Chase:—

Your letter of February 2nd. covers the present situation about as well as possible when we consider that neither of us is actually committed to anything. We are entirely in accord with you with respect to the Ward Leonard options and the Bush property.

With respect to Ilmenite for 1931 and 1932 shipping season, it now seems likely that the Titanium Pigment Company can take from you about five to ten thousand tons during the 1931-32 shipping season and an equal quantity during the 1932-33 season, but I will let you know definitely regarding this matter before you leave London if you will let Miss von Lengerke have your London address.

With respect to co-operative efforts, I think that if you and Dr. Jebsen can work out something definite that will meet the European conditions, the situation in the United States can be dealt with either by cross-licensing agreement or by an actual consolidation of the two companies as may appear best at the time. I find that our people have

a good many different points of view with respect to the whole situation and I think it well for us to keep an open-mind as long as possible.

With kind regards to Mr. Tichnor and yourself, and with best wishes for a comfortable and successful journey, I am

Respectfully,

Vice President.

EM/MM

592

Exhibit 166

April
Ninth,
Ninteen
Thirty-one.

Mr. A. S. Moses, General Manager,
Titanium Pigment Company,
1 Sidney Street,
St. Louis, Missouri.

Dear Mr. Moses:

You will remember our conversation in St. Louis with respect to our supply of ilmenite and the possibility of further purchases from the Commercial Pigments Company. About a month ago I wrote to Mr. Meredith regarding this matter and I am now enclosing for your information a copy of his reply together with a copy of a further letter which is going to him today.

Our negotiations with the Commercial Pigments Company are in abeyance pending the result of the conversations between Dr. Jebsen, Mr. Chase, and Mr. Tichnor. in London and Paris. Of these I have heard nothing since the arrival of Mr. Chase and Mr. Tichnor on the other side. No matter what becomes of these negotiations Mr. Chase seems quite anxious to sell us ilmenite in order to increase the production of their property in Travencora. Whether or not it is wise to continue purchases from the Commercial Pigments Company indefinitely is a matter of policy that can be decided later on, but it may be wise to keep some ore coming from them until we have demon-

strated the possibilities of the Virginia ore and have developed some way to use the Senegal ore without add mixtur with other ores. We always have the mine in Norway to fall back upon but our experience in Germany indicates that the Norway ore requires slightly different treatment from the Travencore ore. I have no fixed opinions on the subject but will be glad to have you give the matter consideration and keep in touch with Mr. Meredith regarding it.

At your convenience I will be glad to learn the result of your trip to California and also to know what decisions were reached with respect to the acid recovery, etc., when you were recently in New York.

I hope that both you and Mrs. Moses were much benefited by your trip.

I am very comfortable here in La Crosse and the weather has been delightful, but my improvement is not so rapid as I might wish.

With kindest regards, I am

Yours very truly,

EM-MT

Exhibit 167

Letterhead of

COMMERCIAL PIGMENTS CORPORATION

Executive Offices

NEW YORK CENTRAL BUILDING,
230 Park Avenue
New York

April 20, 1931.

Mr. Evans McCarty,
Gunderseñ Clinic,
La Crosse, Wisconsin.

Dear Mr. McCarty:

I was glad to receive your letter of the 14th and to learn that your health was improving. I hope that soon you will be feeling as fit as ever. Dr. Jebsen told us in Paris that you had had to give up your western trip.

There is nothing at present in the titanium situation that you need to take up. We had numerous conferences in Paris with Messrs. Jebsen, Kuhne, Holman, Mayer, Donegani and Blumenfeld. Very considerable progress was made and a fairly detailed tentative plan was drawn up which is to be discussed here some time in May, when Dr. Jebsen expects to come over.

When I heard that you were still away I called up Mr. Cornish as I thought he might like to have the story of our talks in Paris. I am to see him tomorrow. Both Dr. Jebsen and ourselves thought that, considering the various interests that had to be dealt with, we had made considerable progress.

Exhibit 167

We found Dr. Jebsen an exceedingly satisfactory man to talk to. He quite came up to the recommendation you gave him.

I hope that you will continue to gain, and don't let business interfere with your return to good health.

Mr. Ticknor joins me in wishing you a most speedy recovery, and hoping to see you back here before long.

Most sincerely yours,

MARCH F. CHASE
Vice-President.

MFC:K

957

Exhibit 168

April
Fourteenth,
Nineteen
Thirty-one.

Mr. March Chase, Vice-President,
Commercial Pigments Corporation,
230 Park Avenue,
New York City.

Dear Mr. Chase:

A recent letter from Mr. Cornish states that you and Mr. Tichnor have returned from Europe, but I have no information as to what took place during your stay on the other side.

As a matter of fact, I have been here at the Gundersen Clinic practically continuously since I left St. Louis and have been in touch with the office in New York only in a general way.

While there has been a marked improvement in my general condition and I am much stronger than I was, I would not like to undertake any active business until my return to New York, which will not be for several weeks at least. If, however, should any of the matters we were discussing become urgent, Mr. Cornish will be glad to deal with them.

With kindest regards to Mr. Tichnor and yourself, believe me,

Yours very truly,

McCarty

EM-MT

Exhibit 169

EXTRACT TAKEN FROM MINUTES OF MEETING BETWEEN REPRESENTATIVES OF IMPERIAL CHEMICAL INDUSTRIES LTD., E. I. DU PONT DE NEMOURS & CO. AND CANADIAN INDUSTRIES LTD. WILMINGTON, FRIDAY, OCTOBER 12, 1928.

VII. CANADA.

(1) C.I.L.—POLICY OF PRINCIPALS RELATIVE TO NEW PRODUCTS:

It was agreed in principle that I.C.I. and duPont desire to cooperate to the maximum degree in so far as practicable in any venture involving the manufacture and/or sale of a product in which either or both principals are interested in so far as such venture wholly involves Canada and in so far as the products manufactured and/or sold are destined for Canadian consumption, and recognize Canadian Industries Ltd. as the proper vehicle for such cooperation. On the other hand, they also recognize that there may be individual cases where the interests of the principals may be better served by other procedure. To provide for such contingencies it was agreed that neither principal is obligated to turn over its business in any individual product against its best interests nor will either principal turn over any venture to C.I.L. contrary to the wishes of the other.

Both principals agree to inform C.I.L. in advance of any plans made by either relative to the manufacture and/or sale of a product in Canada so that C.I.L. may have an opportunity to convince the principal in

question that it is practicable for C.I.L. to undertake the venture.

This Minute supercedes the Minute on this subject of April 7th, 1919 excepting that the principle that the transfer of each such business is to be effected on terms to be arranged and is to have regard to the good will existing therein continues to be recognized.

Exhibit 170.

EXTRACT TAKEN FROM MINUTES OF MEETING IN WILMINGTON ON MARCH 2nd, 1929.

1. CANADIAN RIGHTS TO PROCESSES OWNED BY I.C.I. AND/OR DU PONT.

It was agreed in the case of Canadian rights to any patent or processes owned by either DuPont or I.C.I. that such rights shall be granted free to C.I.L. provided they are wholly owned without prior commitment to an outside party by the principal in question.

In cases where there is a minority interest to be considered, as is the case where the rights are owned by a subsidiary not 100% owned by I.C.I. and/or DuPont but where the principal in question is otherwise free with respect to Canada a fair royalty or lump sum payment shall be established and C.I.L. required to pay only such proportion of such payment as would revert to the minority interests involved. Mr. Purvis pointed out that this arrangement was only needed to apply to Canadian rights now owned as it had been arranged at the DuPont-I.C.I.-C.I.L. meeting held October 12, 1928, to advise C.I.L. in advance of any negotiations undertaken by either principal involving Canadian rights so that C.I.L. might have the opportunity of expressing its interest. In such cases C.I.L. would bear the expense applicable to the Canadian rights.

The question of reciprocity by C.I.L. on the rights for patented and secret inventions developed by it for territory outside of Canada was brought up. It was agreed that C.I.L. was bound to freely give all such rights to both DuPont and I.C.I. with the reservation that in the case of industries in which only one principal is engaged C.I.L. is obligated only to the principal so interested.

Exhibit 171

To: EXECUTIVE COMMITTEE SERIAL No: S-2279

FROM: DEVELOPMENT DEPARTMENT March 25, 1929.

THE KREBS PIGMENT & CHEMICAL COMPANY.

In view of discussions which have taken place between Mr. Lammot du Pont, President and Mr. Krebs, the following information is supplied to your Committee:

Exhibits "A" and "B" are copies of statements supplied by Mr. A. S. Krebs showing status and earnings of their lithopone business, their product being sold under the trade-name "Ponolith".

Exhibit "O" gives above data in comparison with du Pont lithopone data.

The country's lithopone business is about as follows:

	Tons Per Annum		
New Jersey Zinc Company	60,000		
Glidden	40,000		
Mangin (United Color & Pigment Co.)	15,000		
Eagle Picher	12,000		
Sherwin-Williams	10,000		
Du Pont	30,000		
Grasselli	22,000	52,000	
Krebs	33,000		85,000 or 36.6%
Importations	10,000		
Total	232,000		

It will be seen that acquisition of the Krebs business would probably prevent acquiring any other lithopone business. However, it is not indicated that any other business would be attractive and obtainable.

Glidden and Eagle Picher are probably obtainable but the former's plants are apparently not in good shape, the business obtained largely by price-cutting and therefore with little good-will, The Eagle Picher lithopone business can probably only be obtained through purchase of the whole company which is not desired.

Altogether the Krebs business is the most attractive of those available because of the definite good-will of the business and good quality of product. Krebs has certain class of business which du Pont has not been able to obtain especially in the paint business for obvious competitive reasons.

Some doubt has been expressed as to du Pont ability to maintain the Krebs sales in such trade. The best opinion appears to be that the business can be held if du Pont management is not too obvious, i.e., Krebs should be operated as a subsidiary company and not combined with du Pont or Grasselli. Furthermore, the Krebs organization must be kept and Mr. A. S. Krebs' good-will secured for some time, probably by payment of a substantial but fair part-time salary.

The Krebs plant has been inspected by du Pont representatives who gave a favorable report. The location at Newport, Delaware, seems not especially good, but convenient for du Pont management.

The Krebs business since the war has developed very much as has the country's lithopone business. They have had some ups and downs but the business is sound and the management progressive.

Their development of lithopone of high strength containing titanium oxide appears very promising and assists them in ranking among the leaders. However, this is a

development which is not exclusive in any sense and will be followed by other makers whenever desirable.

Their pyrites contract for zinc supply with by-product possibilities is extremely interesting and under favorable conditions will be quite valuable. Its value may be nullified by the new tariff but the probabilities are that the contract will give substantial profits.

As to the future of the lithopone business, the prospects are for expansion and profits as heretofore as a sound and stable industry, progressing with the country's growth. There is no reason to expect unusual increases in lithopone consumption. Therefore future profits cannot be expected to show much more than normal growth. Titanium or other new pigments may cut into lithopone sales and past earnings have not shown an upward trend though presumably 1928 earnings are better than 1927.

Assuming the Krebs business to be acquired on a basis of capitalized earnings, the reasons for earnings under du Pont management in excess of such basis, would be:

1. A normal growth appears probable.

2. Du Pont would become the largest producer in the country and would be able to assume a position due our Company.

3. The pyrites contract, while of speculative value, has nevertheless some value and may be quite profitable. Barring a prohibitive duty under the tariff to be enacted, it is quite within reason that this contract might lead to profits much in excess of $100,000 per year.

4. The larger volume for du Pont will give opportunity for increased profits due to the new lithopone process in course of perfection. In event of success

a $10 per ton saving is possible which applied to the Krebs capacity, would mean several hundred thousand dollars.

In considering these points, it must be admitted that the chances of large increases in profits are speculative and not susceptible of proof or demonstration at this time.

It is also possible that some of the Krebs business with the paint manufacturers cannot be held, thereby checking a growth of the business under du Pont management.

Summarizing the above, it is believed that acquisition of the Krebs business is distinctly desirable and with quite attractive possibilities. However, these possibilities are hardly sufficiently definite to justify the purchase on anything but a fair return on a basis of past performance.

It is the writer's opinion that we are not justified in purchasing the Krebs business on any less favorable basis than past earnings capitalized at 10% which assumes all assets, including the pyrites contract included in the purchase and du Pont stock taken at about market values.

Respectfully submitted,

FIN SPARRE
Director

Note: Exhibit "O" has already been forwarded to you under date of March 20, 1929.

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Exhibit 172

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

QUESTION OF PURCHASE OF THE ASSETS AND BUSINESS OF THE KREBS PIGMENT AND CHEMICAL COMPANY:

The following resolution was offered and unanimously adopted:—

RESOLVED THAT, subject to the approval of the Finance Committee, this Committee approves the purchase of the assets and business of the Krebs Pigment & Chemical Company, including their contract with the Pyrites Company, on a basis of capitalizing their earnings for the past five years, including 1928, at ten per cent. (10%), payment therefor to be made one-half in duPont Company Debenture Stock at $118, and one-half in du Pont Company Common Stock at $170. subject to the following conditions:—

1) No objections being made on the part of Governmental authorities.

2) Full and complete check of the Balance Sheet and earnings statements submitted to us, and the finding of no substantial differences, except the $80,000. commutation of license fees to the New Jersey Zinc Company.

3) It is understood that earnings subsequent to December 31, 1928, less normal dividends paid during that period, will flow to the duPont Com-

pany, and that no liabilities not disclosed on the Balance Sheet will be for du Pont account.

4) That Mr. Sonnin Krebs will agree to continue in a managerial position in the Company for a period of from one to three years at the option of the duPont Company at a salary of $1,250. per month.

This is to certify that the above is a true and correct copy of resolution which was unanimously adopted by the Executive Committee of E. I. duPont deNemours & Company at a regular meeting held on April 3, 1929.

M. D. FISHER
Assistant Secretary
E. I. duPont deNemours & Co.

2/11.

Exhibit 173

Copy to A. B. Echols
C. R. Mudge

To: EXECUTIVE COMMITTEE SERIAL NO. 8-2288

FROM: DEVELOPMENT DEPARTMENT April 8, 1929

THE KREBS PIGMENT & CHEMICAL COMPANY

In accordance with request made by the writer, Mr. Sennin Krebs has furnished us with auditor's reports which have been handed to Mr. A. B. Echols, Treasurer, who has arranged for Mr. B. L. Ward, Comptroller, to examine these in detail and be prepared to examine the books of the Krebs Company if that should be found necessary.

The important contracts of the Krebs Company have been received for inspection. Your Committee is familiar with the pyrites contract under which zinc is purchased under a ten-year contract which appears advantageous to the Krebs Company. It is further ascertained that the Krebs Company has made a five-year contract with Pearlman & Company handling the output of Superior Zinc Corporation. These were the people who attempted to have a tariff placed on the zinc contents in pyrites ore and Mr. Krebs made a five-year contract with them for zinc in order to have them drop their opposition to his pyrites proposition. It is indicated that under the pyrites contract and the Pearlman contract, Krebs might find themselves obligated to too large zinc purchases if their business should fall off or if their ideas about high strength lithopone should not materialize. This might become somewhat embarrassing for the Krebs Company but should not be embarrassing to the du Pont Company because with our lithopone manufacture, any excess zinc could be taken care of provided the Grasselli lithopone business does not also contract to pur-

chase on a long term period up to their maximum zinc requirements. It would seem that the Pearlman contract, while not desirable, is acceptable to our Company.

Krebs has a contract to obtain their sulphuric acid requirements from the Pennsylvania Salt Manufacturing Company, expiring December 31, 1931, at $12.25 delivered which should be satisfactory.

There is a special employment contract with lithopone experts involving a large retainer and a possible, but improbable, payment of a percentage of profit. However, an examination of the contract indicates that it should not be objected to as their should be no payment after fifteen months.

The examination of contracts indicates that there should be no objection to the Krebs proposition and it is further indicated that the examination of books and accounts will give satisfactory results. However, it is desirable to refer the following questions to your Committee.

1. Dividends. The normal dividend of the Krebs Company on their common stock is $2 per share, paid monthly. This dividend rate has been paid for several years. In addition, they paid $6 per share extra dividend last year, or a total of $30 per share. However, while the same regular dividend of $2 per share was paid in January, there has been paid only $1.50 per share for February and March. The reason for this is not that the earnings were less, but because they wanted to conserve their cash for construction purposes and did not want to go to the bank for accommodation. Mr. Krebs maintains that they should be allowed a payment of $2 per share as a regular dividend; if so, they should be allowed to pay out in dividends $0.5 per share for February, March and April, in addition to the

Exhibit 173

$1.50 per share dividend of these months, or a total of $1.50 per share up to April 30 from February 1. This amount would be about $24,000 inasmuch as there are 16,329 shares of stock. While no commitment was made to Mr. Krebs, it is recommended that this should be allowed on the basis of $2 per share as a normal dividend.

2. 1927 Capital Gain Profit. It has been ascertained that during the year 1927 a profit was shown on the sale of mining property and real estate of $125,815. This not being an operating profit, the question might be raised whether this profit should be allowed for capitalization purposes. If this profit is not allowed it would mean that on the average of a five-year basis, there will be a deduction of approximately $25,000 for the average period or $250,000 on the purchase price. This question was discussed with Mr. Krebs who maintained that while it had not been the subject of discussion during negotiations, he takes the position that no corrections were to be made to their earnings statements and that he does not want to make any concessions because he feels that the proposed deal is exceptionally favorable to the du Pont Company. While no commitment was made to Mr. Krebs, it is believed advisable to accept Mr. Krebs' position in the matter on the assumption that we are desirous of concluding the deal promptly. Otherwise, this question would be apt to lead to considerable argument and hard feelings.

3. Term of Employment. Your Committee's resolution relative to Mr. Krebs' employment is not quite satisfactory to Mr. Krebs and the following suggestion is made:

Mr. Sonnin Krebs would agree to continue in a managerial or advisory capacity for a period of from one to three years at the option of the duPont Company at a salary

of $1,250 per month, it being understood that the du Pont Company agrees to pay $45,000 under this arrangement but may at it own option employ Mr. Krebs either in a managerial or advisory capacity. It is further understood that in return for this compensation, Mr. Krebs will agree to give approximately one-half of his time to the Company, assuming the obligations and responsibilities of such employment.

Mr. Krebs made the two points that he had agreed only to give part of his time and that he was to be guaranteed a certain payment for certain length of time, but he admitted that this point had not been decided in discussion with the president.

Mr. C. R. Mudge has been requested to consult Washington in regard to the legal aspects of the case.

It is believed that it is now in order to submit an offer in writing to Mr. Krebs and which he again should accept in writing, so that these negotiations may be brought to a conclusion and the terms accepted. It is therefore suggested that your Committee should authorize the president or any vice-president to submit an offer in writing to Mr. Krebs in accordance with your Committee's resolution of April 3rd but with amplification of the terms of Mr. Krebs employment and compensation as explained above. It would not seem necessary to mention anything in regard to dividends and earnings except the statements already contained in your Committee's resolution unless you should take a different position from that taken in the present report and in which case, the offer to Mr. Krebs should so state.

Respectfully submitted,

FIN SPARRE.
Director

Exhibit 174

April 13, 1929.

To : Finance Committee

From : Executive Committee

QUESTION OF PURCHASE OF THE ASSETS AND BUSINESS OF THE KREBS PIGMENT & CHEMICAL COMPANY:

Supplementing our letter of April 5th (#619), advising of the Executive Committee's action of April 3rd, in connection with the above subject:

We are attaching hereto copy of Dr. Sparre's further report of April 8th, in which he requests advice on several points relating to these negotiations. After discussion with Dr. Sparre at meeting held on April 10th, the Executive Committee unanimously adopted the following resolution:—

RESOLVED, that Dr. Sparre be advised as follows, in response to his request for instructions on certain points relating to negotiations for purchase of the assets and business of the Krebs Pigment and Chemical Company:

1) The duPont Company will allow a monthly payment of $2.00 a share as a regular dividend on common stock of the Krebs Company;

2) The duPont Company will agree to pay Mr. Sonnin Krebs a salary of $15,000.00 a year for three years for approximately half-time employment in a managerial or advisory capacity;

3) The duPont Company does not agree to include the capital gain item of $123,815.00 for the year 1927 for the purpose of capitalizing earnings.

Exhibit 174

It was also the unanimous feeling of the Committee that there would be no objection to making payment for the assets and business of the Krebs Company on the basis of two-thirds in duPont common stock at $170 and one-third in duPont debenture stock at $118.

It was further moved and unanimously carried that Dr. Sparre be requested to ask if the Legal Department sees any objection to incorporating in the contract a provision that Mr. Sonnin Krebs will not engage in the lithopone business in a competitive way for a period of from five to ten years.

Under date of April 12th, Dr. Sparre advised as follows:—

"The purchase price in accordance with your Committee's resolutions is approximately $5,792,000. Mr. Sonnin Krebs, President, has admitted that this calculation is correct and he admits the other points to be satisfactory. However, he was very unhappy over the figure found by the calculation and has maintained consistently, while admittedly incorrectly by him, that the capital gain of 1927 should be capitalized. This item figures out to be $214,000 on the purchase price.

In a conference today with Mr. Lammot duPont and Mr. Krebs it was agreed to recommend to your Committee to split this difference and allow Mr. Krebs one-half of the amount or approximately $107,000. This was wholeheartedly accepted by Mr. Krebs.

It is believed that it is good business to add this amount of $107,000 because we need Mr. Krebs' goodwill and this is therefore recommended to be accepted by your Committee though there is no other argument in

favor of this recommendation except as a measure of good-will."

The foregoing recommendation has been informally approved by a majority of the members of the Executive Committee, and the matter is now presented to your Committee for consideration and approval.

M. D. FISHER
Sec'y Executive Committee.

H

89-enc.

Exhibit 175

AGREEMENT dated March 24, 1927 between COMMERCIAL PIGMENTS CORPORATION, a Delaware corporation, (herein called the Pigments Company), of the first part, JOSEPH BLUMENFELD (herein called the Inventor), of the second part, and SOCIETE de PRODUCTS CHEMIQUES DES TERRES RARES (herein called the French Company), of the third part,

Recitals

The Inventor entered into a contract in writing dated February 12, 1927 (herein called the February contract) with W. D. Tickner under the terms of which the Inventor agreed to make with the Company therein referred to as the New Company, when organized, the contract hereinafter contained. The Pigments Company is the company referred to as the New Company in the February contract and has been organized in accordance with the terms thereof. Prior to the execution of the February contract the Inventor agreed with said Tickner that he would procure the French Company to become a party to the contract, hereinafter contained and to join with him in the performance of the terms and conditions thereof to be performed by him.

NOW, THEREFORE, in consideration of the premises and of the sum of one dollar ($1.) by each to the other in hand paid and of other good and valuable consideration, the receipt of all of which is hereby acknowledged, it is agreed by the parties hereto as follows:

FIRST: If the Inventor and/or the French Company during the continuation of this contract shall invent or discover or become possessed of any inventions or improvements, whether patentable or not and which relate or are applicable in any way to titanium oxide or the production thereof, the Inventor and/or the French Company shall furnish forthwith, and without further payment, to the

Pigments Company all the information respecting such inventions or improvements so that the Pigments Company if the inventions or improvements are patentable may be placed in a position to apply in the name of the Inventor of any such invention or improvement for letters patent of the United States respecting such invention or improvement or at its option may require the Inventor and/or the French Company to take the necessary action to procure the issue and assignment of such letters patent to the Pigments Company. It is intended that the Inventor and/or the French Company make available to the Pigments Company ~~not only~~ all inventions and improvements relating to the production of titanium oxide which the Inventor and/or the French Company acquires ~~but~~ also ~~these~~ and all of the aforesaid inventions and improvements which he and/or it becomes possessed of by reason of his and/or its contracts or relations with the various corporations exploiting these patents in countries other than the United States. All expenses in connection with the application for and issue of such letters patent and their assignment shall be borne by the Pigments Company.

Reciprocally if the Pigments Company during the continuation of this contract shall invent or discover or become possessed of any inventions or improvements whether patentable or not and which relate to or are applicable in any way to titanium oxide or the production thereof it will furnish forthwith and without further payment to the Inventor and/or the French Company all the information respecting such inventions or improvements so that the Inventor and/or the French Company may apply for letters patent of any country other than the United States respecting such inventions or improvements, all expenses in connection with the application for the issue of such letters patent

in countries other than the United States shall be borne by the Inventor and/or the French Company. Should the Pigments Company grant any license or licenses respecting the letters patent owned by it relating to the production of titanium oxide it will require that the grantee of such licenses or licenses furnish to it without cost full information respecting all improvements whether patentable or not made or acquired by such licensee or licensees, and such information when received will be made available to the Inventor and/or the French Company for use in countries other than the United States on the same terms as in the case of improvements made by the Pigments Company.

Sec[illegible] contract shall continue until the termination of [illegible] contract in writing between the Pigments Company and Blumann Rare Earths Chemical Company dated March 24, 1927.

IN WITNESS WHEREOF the Pigments Company and the French Company have caused these presents to be duly executed in their respective corporate names, and the Inventor has hereunto placed his hand and seal, all as of the day and year first above written.

COMMERCIAL PIGMENTS CORPORATION

By W. D. TICKNOR
President.

SEAL

Attest:
A. R. BERGEN
.....

Exhibit 175

SOCIETE de PRODUCTS CHIMIQUES DES TERRES RARES

A. KHOUVINE

By .....

CORPORATE SEAL

Attest:

.....

CORPORATE SEAL

JOSEPH BLUMENFELD

.....(L.S.)

Exhibit 175

STATE OF NEW YORK :
: ss
COUNTY OF NEW YORK :

On the 24 day of March, 1927, before me personally came WILLIAM D. TICKNOR, to me known, who being by me duly sworn, did depose and say that he resides in the City of New York; that he is the President of Commercial Pigments Corporation, one of the corporations described in and which executed the above instrument, that he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal, and that it was so affixed, by order of the board of directors of said corporation, and that he signed his name thereto by like order.

H. N. JASPER
Notary Public

SEAL

Exhibit 175

UNITED STATES CONSULATE GENERAL :
CITY OF PARIS, REPUBLIC OF FRANCE : ss.

I, John R. Wood Vice-Consul of the United States of America, at Paris, France, duly commissioned and qualified, do certify that on this 19th day of May, 1927, before me personally appeared in said Paris, France, JOSEPH BLUMENFELD, to me known, and known to me to be the individual described in, whose name is subscribed to, and who executed the foregoing instrument, and being by me informed of the contents of said instrument he duly acknowledged to me that he executed the same freely and voluntarily for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year last above written.

JOHN R. WOOD

.....

Vice Consul
of the United States of America
at Paris, France

SEAL

CONSULAR
STAMP

Exhibit 175

REPUBLIC OF FRANCE
CITY OF PARIS
AMERICAN CONSULATE GENERAL } ss.

On this....19th....day of....May....1927, before me personally came.....Abraham. Khouvine..... who being by me duly sworn did depose and say that he resides at...129. Avenue des Champs. Elysees, Paris, France .....

that he is administrator of The Societe des Produits Chimiques des Terres Rares, of Paris, France the corporation described in and which executed the foregoing instrument, that he signed his name thereto by order of the Board of Directors of said corporation and that said corporation has no seal.

Given under my hand and seal of office this...19th... day of.....May.....1927.

JOHN R. WOOD (Sgd.)
Vice Consul of the United States of America, at Paris, France.

SEAL

CONSULAR STAMP

620

Exhibit 176

COMMERCIAL PIGMENTS CORPORATION

and

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES

and

JOSEPH BLUMENFELD

AGREEMENT

Dated, December 17, 1929

Exhibit 176

COPY

AGREEMENT dated December 17, 1929 between COMMERCIAL PIGMENTS CORPORATION, a Delaware corporation (herein called Pigments), party of the first part, SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES, a French corporation (herein called Terres Rares), party of the second part, and JOSEPH BLUMENFELD (herein called Blumenfeld), party of the third part.

RECITALS

Under date of March 24, 1927 Pigments and Blumann Rare Earths Chemical Company, a Delaware corporation (herein called Blumann), entered into a certain contract in writing (herein called the Blumann Contract) which provided that Blumann transfer to Pigments certain United States patents and applications, that Pigments pay to Blumann amounts equal to certain percentages of the net earnings of Pigments for the years from 1927 through 1953, that Pigments guarantee that such payments to Blumann for the years from 1929 through 1943 equal certain amounts, and that Pigments issue certain stock to Blumann in certain events, and which contained also an Article reading as follows:

> "SEVENTH: The Pigments Company shall not export any products manufactured under the Patents to countries other than the territories and dependencies of the United States without first obtaining the consent of the Blumann Company. The Blumann Company will not permit the importation into the United States or its territories and dependencies of titanium oxide manufactured under any of the so-called Blumenfeld group processes without the consent of the Pigments Company."

Exhibit 176

Also under date of March 24, 1927 Pigments and Terres Rares and Blumenfeld entered into a certain contract in writing (herein called the Terres Rares Contract) which provided for an interchange between Pigments and Terres Rares and Blumenfeld of certain information and rights in respect to certain inventions and improvements, and which contained also an Article reading as follows:

> "SECOND: This contract shall continue until the termination of the contract in writing between the Pigments Company and Blumann Rare Earths Chemical Company dated March 24, 1927"

Blumann duly made the transfer of patents and applications to Pigments which it was required by the Blumann Contract to make, and Pigments has not yet been required by the Blumann contract to make any payment or issue any stock to Blumann. Terres Rares is, at or before the execution and delivery hereof, acquiring all rights of Blumann under the Blumann Contract and assuming all obligations of Blumann under the Blumann Contract.

Pigments is the owner of 5.55% shares of Common stock of Commercial Solvents Corporation, a Maryland corporation (herein called Solvents), and Solvents has declared a dividend of $1,389 on said shares payable to Pigments on January 1, 1930.

Solvents has recently acquired all of the outstanding stock of Pigments, and the parties hereto desire to arrange for the cancellation of the Blumann Contract and all obligations outstanding thereunder, the assumption by Pigments and Terres Rares of obligations corresponding to those assumed by Pigments and Blumann unde Article Seventh of the Blumann Contract, the amendment of the Terres Rares Contract in such manner that it shall remain

in effect throughout the period for which the Blumann Contract was originally expected to remain in effect, the transfer by Pigments to Terres Rares of said 5,556 shares of Common Stock of Solvents, and the transfer by Pigments to Terres Rares of said dividend of $1,389 on said shares.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants hereinafter contained, it is agreed by the parties hereto as follows:

FIRST: The Blumann Contract and all obligations of every nature and description now outstanding thereunder are hereby cancelled and annulled.

SECOND: Pigments hereby agrees that until January 1, 1954, it will not, without having first obtained the consent of Terres Rares, export to any country other than the territories and dependencies of the United States any product manufactured under any patent or application acquired by Pigments under the Blumann Contract. Terres Rares hereby agrees that until January 1, 1954, it will not, without having first obtained the consent of Pigments, permit the importation into the United States or any territory or dependency thereof of any titanium oxidd manufactured under any of the so-called Blumenfeld group processes.

THIRD: The Terres Rares Contract is hereby amended by striking out the present Article Second thereof and substituting therefor a new Article reading as follows:

> SECOND: This contract shall continue in full force and effect until January 1, 1954".

FOURTH: Pigments hereby transfers, assigns and sets over unto Terres Rares said 5,556 shares of Common Stock

Exhibit 176

of Solvents owned by Pigments, and Pigments hereby agrees that it will forthwith cause said shares to be transferred to Terres Rares on the books of Solvents and deliver to Terres Rares certificates for said shares made out to Terres Rares.

FIFTH: Pigments hereby transfers, assigns and sets over unto Terres Rares said dividend of $1,389 payable on January 1, 1930 on said shares of stock, and Pigments hereby agrees that it will, on its receipt of a check in payment of said dividend, pay over the proceeds thereof to Terres Rares.

IN WITNESS WHEREOF Pigments has caused these presents to be executed in its name by its Chairman thereunto duly authorized and its seal to be hereunto affixed and attested by its Secretary, and Terres Rares has caused these presents to be executed in its name by two of its Managing Directors thereunto duly authorized and its seal to be hereunto affixed, and Blumenfeld has hereunto set his hand and seal, all as of the day and year first above written.

COMMERCIAL PIGMENTS CORPORATION

By W. D. TICKNOR

SEAL Chairman

Attest A. R. BERGEN

SOCIÉTE DE PRODUITS CHIMIQUES DES TERRES RARES

By Khouvine

Joseph Blumenfeld

Managing Directors

Joseph Blumenfeld (L. S.)

Exhibit 177

TO: EXECUTIVE COMMITTEE SERIAL NO: S-2402

FROM: DEVELOPMENT DEPARTMENT February 18, 1931

COMMERCIAL PIGMENTS CORPORATION

IMPORTANCE OF TITANIUM PIGMENTS:

It is estimated that in 1930 there was produced in the United States approximately 8000 tons of TiO_2 which, combined with extenders, replaced about 45,000 tons of other white pigments. This compares with lithopone production of about 160,000 tons. The use of titanium pigments is growing rapidly, and because of superior whiteness and hiding power, coupled with the probability of low manufacturing cost, titanium has great potentialities in the white pigment field. The position of titanium in comparison with other white pigments is shown graphically on Exhibits "S" and "T", Exhibit "S" showing comparative volume and Exhibit "T" showing comparative growth.

DU PONT POSITION re MANUFACTURE OF TiO_2:

Because the Grasselli Chemical Company is convinced of the necessity of getting into the production of TiO_2 as promptly as possible, the du Pont Company has already spent about $130,000 in developing a patent free process for manufacturing TiO_2. This work has now been carried through the laboratory stage and the next step, if the du Pont Company should continue an independent course, would be the erection of a semi-works plant at Krebs. Expenditures on this development are running at the rate of

$11,000 per month and if the du Pont Company continues to follow an independent course, experimental expenditures will probably total half a million dollars by the time the Company is ready to erect a commercial plant toward the end of 1932. Construction of a commercial plant would then call for a capital expenditure of one to two million dollars depending upon initial capacity.

POSSIBILITY OF CONSOLIDATION:

As an aternative to continuing this independent development, there is the possibility of consolidating with one of the existing manufacturers of titanium pigments. By following this alternative, the du Pont Company would avoid a costly development program followed by a large capital expenditure, and would enter immediately into the manufacture of titanium pigments instead of delaying such manufacture for nearly two years. The present manufacturers of TiO_2 are the Titanium Pigments Corporation, owned by the National Lead Company, and the Commercial Pigments Corporation, owned by the Commercial Solvents Corporation. The Titanium Pigments Corporation has a plant at St. Louis, and it is estimated that they produced in 1930 about 6000 tons of TiO_2, practically all of which was marketed as Titanox (TiO_2 extended with either barium or calcium sulphate). Titanox is a patented product, but the original barium extender patent expires in 1932 and the calcium extender patent expires in 1934. The Commercial Pigments Corporation has a plant at Baltimore where they produced in 1930 about 1800 tons of TiO_2, which was sold without extender to lithopone manufacturers for use in making titanated lithopone and to paint manufacturers for use as TiO_2. The history of this company is reviewed in Exhibit "N".

The Vanadium Corporation owns a deposit of ilmenite in Virginia and it is reported that they are already operating a pilot plant for the manufacture of TiO_2. This company may become an important factor in the situation when they attempt to find a market for their product.

The manufacture of titanium pigments has been discussed with the National Lead Company from time to time but that company has not shown recently any inclination to join with the du Pont Company in this development. The Commercial Pigments Corporation, on the other hand, believes that it would be desirable to consolidate their business with the pigment business of the Grasselli Chemical Company. Several discussions have been held with W. D. Ticknor, president of the Commercial Solvents Corporation, and Mr. M. F. Chase, vice-president of the Pigments Corporation, for the purpose of developing such a possibility.

BROAD BASIS FOR CONSOLIDATION:

Because the Commercial Solvents Corporation has such confidence in the potentiality of titanium pigments and because their pigment business is just getting established, it would be impossible at this time to agree on a price for outright purchase. It has been necessary, therefore, to proceed on the assumption that the Grasselli lithopone and dry color business would be consolidated with the business of the Commercial Pigments Corporation in a new pigment company in which the Commercial Solvents Corporation would have a minority interest.

It is recognized that such a set-up would lead ultimately to 100% ownership by du Pont, and it is believed that it would be possible to acquire the minority interest on some

equitable basis after a few years when the earning power of the business has become definitely established. The possibility of making this minority stock callable has been discussed, and, although a fixed price per share would not be acceptable to the Commercial Solvents Corporation, it is believed that it will be possible to set up an acceptable formula for basing call price on earnings. The charter might provide, for example, that this minority stock would be callable at any time after five years at a price per share equal to X times average annual earnings per share for the three calendar years immediately preceding the call. X might be set at say 12 or 15.

In order to determine an equitable basis for division of ownership in the consolidated company, a comparison was made of the assets and earnings to be contributed by each party.

ASSETS:

Exhibit "A" shows Commercial Pigments Corporation balance sheet for November 1930. Exhibit "C" shows a preliminary proforma balance sheet of the consolidated company, adjusted to March 31, 1931 as explained in detail in the exhibit. This shows consolidated assets of about $10,000,000 and consolidated net worth of about $8,000,000. Net worth is divided about 70% du Pont and 30% Commercial Pigments.

The fixed assets of the consolidated company include the Grasselli plant at Newark, the Krebs plant at Newport and Commercial Pigments plant at Baltimore. The Baltimore plant stands on the books at about $1,400,000 and it is said that all of this capital expenditure is visible in the plant. The plant site (about 3 acres) is leased from the U. S.

Industrial Alcohol Company under a lease running to 1934 with option to purchase for $105,000. A photograph of the plant is shown in Exhibit "O".

The Philadelphia lithopone plant (book value $401,410) is not included in the proposed set-up. This plant was shut-down in December 1930. It will not be needed in 1931 and it is questionable whether it will ever be used again for lithopone production. It is a non-earning asset located at a point remote from any of the operating plants of the proposed company, and for that reason it was felt both by Commercial Pigments representatives and by your representatives that it should not be included at this time. Commercial Solvents representatives are willing, however, that there should be a stipulation in the agreement providing that the Philadelphia plant can be acquired by the new corporation at book value whenever a majority of the directors feel that such acquisition should be made. Except for the Philadelphia plant, the assets contributed by Grasselli will include all of the assets now carried by the Grasselli lithopone and dry color division.

Assets set up for Commercial Pigments Corporation include an item of $192,500 for purchased patents. This includes $50,000 paid in cash to the Glidden Company for a group of patents under which Commercial Pigments Corporation licenses certain customers, including Grasselli and Krebs, to manufacture titanated lithopone. It includes also $142,500 paid in stock to Blumenfeld for the patented process under which Commercial Pigment's manufactures TiO_2. Blumenfeld was given 10% of the stock of the original Commercial Pigments Corporation and the remaining 90% was issued for $1,282,500 in cash, thus placing a value of $142,500 on Blumenfeld's stock. The original un-

derstanding with Blumenfeld provided that he would receive this stock plus certain royalties. The stock was subsequently exchanged for Commercial Solvents stock in order to eliminate the minority interest in the Pigments Corporation and at the same time royalties were commuted for a cash payment of $128,600. This item for paid-up royalties was included in the November balance sheet as a deferred asset. The $192,500 cost of purchased patents was not shown by Commercial Pigments Corporation on their November balance sheet, but after considerable discussion it was felt that this portion of their development expense might be allowed in determining their share of ownership in the consolidated company.

Commercial Pigments Corporation has spent $372,483 in development expense and initial operating losses which is not capitalized in the proposed set-up. The effect of this is to allow the Grasselli Company, on a 70-30 basis, $870,000 for development expense and other intangibles which have not been capitalized, such as development of the "F" process.

Net worth as shown on Exhibit "C" excludes the Philadelphia plant and includes commercial pigments cost of purchase patents. These two factors have the following effect on division of ownership:

	Grasselli	Commercial	Total
Net worth as shown on Exhibit C	$5,655,373—70.1%	$2,414,232—29.9%	$8,069,605—100.0%
Deduct cost of purchased patents		192,500	192,500
	5,655,373—71.8	2,221,732—28.2	7,877,105—100.0
Or, add Philadelphia plant	401,410		401,410
	6,056,783 71.5	2,414,232 28.5	8,471,015 100.0

Exhibit 177

EARNINGS:

No. 1 forecast of the Grasselli Pigments Division shows $723,500 net profit for 1931 (Exhibit I). In order to set up a similar forecast of earnings for Commercial Pigments Corporation, it is necessary to examine both unit costs and sales possibilities.

UNIT COSTS OF COMMERCIAL PIGMENTS CORPORATION:

Commercial Pigments Corporation is just completing new construction which will improve its operations considerably and at the same time increase the plant capacity from 10 tons daily to about 21.5 tons daily. It is expected that the new plant will be operating completely by the end of February, but an analysis of actual costs in the new plant cannot be made until the March cost sheets are available. Commercial Pigments has made an estimate, however, of the costs they expect to attain in the new plant, based on their experience in operating the 10-ton plant and in pilot plant operation of some modifications which they are introducing in the larger plant. An outline of the process is given in Exhibit "L". The forecast of unit costs, as compared with actual results in October, is shown in detail in Exhibits E, F and G, showing respectively ingredients cost, conversion cost and total mill cost.

Total mill cost of 7.65¢ per lb. when operating at capacity (Exhibit G) appears to be reasonable in the light of Commercial Pigments experience. It compares conservatively with estimate made in February 1930 by du Pont Chemical Department and Grasselli Pigment Division (Dev. Dept. report D-790). The following comparison is of interest:

Exhibit 177

	Annual Production	% of Capacity	Mill Cost per Lb.
Titanium Dioxide:			
* Oct. 1930 operation (Exhibit G)	3,230 T	92%	13.66¢
# Cost required to compete with 3.25¢ cost of lithopone			11.37
* 1931 forecast (Exhibit I)	3,130	42	10.76
# Cost required to compete with 3.00¢ cost of lithopone			10.50
* Estimate for production at plant capacity (Exhibit G)	7,500	100	7.65
Du Pont estimate of (Max.	25,000	100	5.94
Feb. 1930 (D-790) (Min.	25,000	100	4.51
Lithopone:			
1931 forecast (Exhibit I)	58,560	96	3.25
1931 possible cost	58,560	96	3.00

* By Commercial Pigments Corporation

\# TiO2 has greater hiding power but lower bulking value than lithopone. Taking account of both of these factors, the du Pont Paint Division and the Grasselli Pigment Division estimate that 1 lb. of TiO2 is equivalent to about 3½ pounds of lithopone. This factor was used to compute break-even costs.

SALES BY COMMERCIAL PIGMENTS CORPORATION:

In 1930, Commercial Pigments Corporation sold about 1800 tons of TiO2. Sales are now running at the rate of about 2000 tons annually and it is expected that by the end of the year sales will be at the rate of about 4000 tons annually, or 53% of plant capacity. Commercial Pigments expects that sales for the calendar year 1931 will be about 3100 tons as shown in detail in Exhibit H.

Commercial Pigments Corporation sells directly to Grasselli, Glidden, United Color and Pigment Company and Sherwin-Williams Company; all other sales are handled

by R. T. Vanderbilt Company on a 10% commission basis under a year to year arrangement. Vanderbilt's sales have gone heretofore almost entirely to the paint industry, in which he has about 200 accounts. These accounts all buy in small quantities (one or two barrel lots), but it is said that they are all repeat customers. Vanderbilt has recently begun to sell TiO_2 to the glass industry for use as an ingredient in special grades of glass. This business amounted to about 5 tons in January and Vanderbilt has advised Commercial Pigments that he expects to build this business up to 100 or 200 tons per month by the end of the year. In order that Commercial Pigments may reach the forecasted sales of 3,130 tons for this year, as shown in Exhibit H, it will be necessary for Vanderbilt to increase his sales to the glass industry up to 115 tons per month by the end of the year. This forecast of sales for 1931 is rather speculative, but it seems to be a fair guess.

1931 FORECAST:

Based on sales and unit costs estimated by Commercial Pigments Corporation, a forecast has been prepared for 1931 as shown in Exhibit I. This shows net profit of $210,000 so that the forecast compares with Grasselli #1 forecast as follows:

	Grasselli	Commercial	Total
1931 Net Profit....	$ 723,500	$ 210,000	$ 933,500
% of Total.....	77.5%	22.5%	100.0%

It has been recognized in our conversation with Commercial Pigments that the earnings shown for Grasselli are proven earnings based on established business, whereas

the earnings indicated for Commercial Pigments are merely estimates. In this connection, Commercial Pigments' representatives have emphasized the fact that the du Pont Company had sufficient confidence in the future of titanium pigments to embark on a very expensive development program which can be discontinued if a merger is effected.

PATENT SITUATION:

Mr. Chase has stated definitely that they are not infringing any patents which their lawyers consider valid. This is contrary to the view heretofore held by the du Pont Chemical Department as explained in Exhibit "M". It will be necessary, with the aid of du Pont Chemical and Legal Departments, to examine the Commercial Pigments process very carefully for possible infringement. Also, in taking over the business of Commercial Pigments Corporation it will be necessary to limit the liabilities assumed by the new company to certain stated current liabilities so that any liability for past infringements will rest with the present company.

POTENTIAL EARNING POWER:

In order to get some idea of comparative future possibilities from an earnings standpoint, a computation of potential earning power of Grasselli Pigment Division was made as explained in Exhibit "P" and a similar calculation was made for Commercial Pigments Corporation as explained in Exhibit "Q". These two calculations are compared in Exhibit "R". This indicates that potential earnings stand in a relationship of approximately 70% Grasselli and 30% Commercial Pigments instead of 77.5—22.5 as forecasted for the current year.

This 70-30 division of potential earnings is based on 1931 prices and 1931 costs. Exhibit "I" shows that Grasselli, operating at 96% of capacity, forecasts earnings of 11% on sales; whereas Commercial Pigments, operating at only 42% of capacity, forecasts earnings of 20% on sales. Consequently a general cut in pigment prices would hurt Grasselli considerably more than it would Commercial Pigments, and would have the effect of reducing Grasselli's 70% and increasing Commercial Pigments 30%. A similar effect would result from a decrease in mill cost of TiO_2 which is to be expected wtih increased volume of production.* For these reasons a 70-30 division of earning power does not appear to give full credit to the potentialities of titanium pigments; nevertheless Commercial Pigments representatives have accepted 70-30 as representing a reasonable guess as to the comparative contribution of earnings to be made by the two companies over the next few years.

TRAVANCORE MINERALS CO., LTD.

This company mines ilmenite (about 52% TiO_2), zircon and monazite from beach sands in India. It has exclusive rights on a strip of beach 100 yards wide and 79 miles long, with preferential right to lease other properties. This concession was granted by the Maharani Regent of Travancore in the form of a 15 year lease beginning November 16, 1928, for which the consideration was a cash payment of £7500 plus certain royalties. In the same locality the Hopkins-Williams Company mines ilmenite from the sand dunes back of the beach.

*A similar effect would result also from an increase in mill cost of lithopone which may be expected in the next few years owing to the fact that zinc prices are probably now at a minimum.

997

Exhibit 177

This Indian beach sand is at present the cheapest source of ilmenite and probably will continue to be until ilmenite requirements increase one and a half or possibly two-fold. The Travancore Company is now mining 21,000 tons of ilmenite annually and it is claimed that it should be able to continue this indefinitely. Of this amount, 16,000 tons annually is shipped to the Commercial Pigments Corporation which is approximately the amount required to operate the Baltimore plant to capacity.

Balance sheet and earnings statement of the Travancore Company are shown in Exhibits J and K respectively. The Commercial Pigments Corporation owns £15,000 in 6% Prior Lien Debentures and also 17,490 shares of A stock. This A stock gives Commercial Pigments 50% of the earnings and 40% of the vote. This arrangement was made because control of a British company must by law be held by British subjects. The balance of the voting stock is held by two individuals: Mr. Hirst, of the British General Electric Company and another gentleman, both of whom are said to be very friendly to the Commercial Solvents Corporation.

SPECIFIC BASIS FOR CONSOLIDATION:

The foregoing figures as to net worth and earnings, all of which have been discussed with Commercial Pigments representatives, indicate the following division of ownership in the new company:

	Grasselli	Commercial	Total
Net Worth:			
Including purchased patents	70%	30%	100%
Excluding " "	72%	28	100
Earnings:			
1931 forecast	78	22	100
Potential earning power	70	30	100

Exhibit 177

It is recognized that it would be desirable to have du Pont participation as large as possible, even to the extent of putting up additional cash in order to buy a larger participation. On the other hand, Mr. Ticknor, after discussing the matter with his colleagues, has made the definite proposal that they be granted a 30% participation and in addition be permitted to put up sufficient cash, about $400,000, to bring their participation up to 35%. He advanced the following reasons why the du Pont Company should grant this request:

1. Du Pont gains the advantage of substantially controlling the Travancore ilmenite supply.
2. Commercial Solvents Corporation releases control of its pigment business.
3. Du Pont avoids necessity of continuing costly development program.
4. Du Pont gains the advantage of exchange of technical information with European companies manufacturing TiO_2 under Blumenfeld patents.

Your representatives took the position that this would amount to selling a portion of our lithopone business, which we are not interested in doing, and your representatives urged that percentage participation should be determined by the comparative capital requirements of the two businesses, with possibly some adjustment in cash to round out the figures.

It is believed that it would be possible to insist that Commercial Solvents accept a participation of less than 30%, possibly even as low as 25%, but such insistence would not tend to encourage good feeling on the part of our new partners. It is believed that the better procedure would

be to propose a 70-30 basis, permitting each partner to turn over to the new corporation substantially the assets and liabilities shown on Exhibit "C" with such adjustment in cash as may be necessary to round the figures out to 70-30, all of this of course subject to verification of assets, patent position and forecasted costs of Commercial Pigments Corporation. It is believed further that this 30% participation should be granted to Commercial Pigments Corporation only in case they agree to the proviso that their stock shall be callable at a price based on earnings to be computed in accordance with some formula agreed to in advance.

RECOMMENDATION:

It is recommended that the Development Department be authorized to advise the Commercial Solvents Corporation representatives as follows:

Subject to verification of Commercial Pigments Corporation assets, patent position and manufacturing cost, the du Pont Company is agreeable to consolidating the assets of the Grasselli Pigments Division with the assets of the Commercial Pigments Corporation in a new pigments company;

The du Pont Company is further willing that the Commercial Pigments Corporation should have a 30% participation in the new company with allowance for the cost of purchased patents and with the understanding that adjustment of net worth to 30% will be made in cash, provided Commercial Solvents Corporation accepts a stipulation that minority stock will be callable on the basis of some formula to be mutually agreed upon.

APPROVED BY:
FIN SPARRE

PREPARED BY:
W J BEADLE

Exhibit 177

INDEX OF EXHIBITS

A—Commercial Pigments Corporation—Condensed Balance Sheet November 30, 1930.

B—Commercial Pigments Corporation—Income and Expense Statement Month of November 1930

C—Preliminary Pro-Forma Balance Sheet—As of November 30, 1930

D—Market Value

E—Commercial Pigments Corporation—Estimated Ingredients Cost

F—Commercial Pigments Corporation—Estimated Conversion Cost

G—Commercial Pigments Corporation—Estimated Mill Cost

H—Commercial Pigments Corporation—Estimated Sales for 1931 at Present Prices

I—Comparative Income Statement—Year 1931

J—Travancore Minerals Company—Balance Sheet—Sept. 30, 1930

K—Travancore Minerals Company—Estimated Earnings for Year Ending March 31, 1931

L—Outline of Commercial Pigments' Process for Making TiO_2.

M—TiO_2 Patent Situation—Letter from Chemical Department dated January 21, 1931

N—History of Commercial Pigments Corporation

Exhibit 177

O—Commercial Pigments Corporation—Baltimore, Maryland plant

P—Potential Earning Power of Grasselli Pigment Business

Q—Potential Earning Power of Commercial Pigments Corporation

R—Comparison of Potential Earning Power

S—White Pigments—Comparative Volume

T—White Pigments—Comparative Growth

Exhibit 177

EXHIBIT "A"

COMMERCIAL PIGMENTS CORPORATION

CONDENSED BALANCE SHEET NOVEMBER 30, 1930

ASSETS:	
Cash	$ 76,871.65
Receivables	60,249.84
Inventories	284,661.46
Total Current Assets	421,782.95
Buildings & Equipment	1,139,235.99
Investments	78,895.66
Deferred Assets (Incl. Prepaid Royalties, Prepaid Insurance, Stores Inventory, Etc.)	155,502.61
Total	$1,795,417.21
LIABILITIES:	
Accounts Payable	$ 27,898.37
Accruals	7,502.02
Total Current Liabilities	$ 35,400.39
Due Commercial Solvents Corporation	900,000.00
CAPITAL	
Capital Stock	1,282,500.00
Surplus	422,483.18
Total	$1,795,417.21
Net Current Assets	$ 386,382.56

Exhibit 177

SCHEDULE "A"
COMPARATIVE BALANCE SHEET
COMMERCIAL PIGMENTS CORP. AND AMERICAN ILMENITE CORP. CONSOLIDATED
For Months Ending April 30 and May 31, 1931—
ASSETS

	COMMERCIAL PIGMENTS CORP.			AMERICAN ILMENITE CORP.			CONSOLIDATED		
	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease
Cash									
Guaranty Trust Company	208 459.52	77 579.15	130 880.37				208 459.52	77 579.15	130,880.37
Baltimore Trust Company	8 015.10	8 015.10	0				8 015.10	8 015.10	0
Chase National Bank	0	0	0	7 373.54	7 745.32	371.78	7 373.54	7 745.32	371.78
Petty Cash—Baltimore	100.00	100.00	0	0	0		100.00	100.00	0
TOTAL CASH	216 574.62	85 694.25	130 880.37	7 373.54	7 745.32	371.78	223 948.16	93 439.57	130 508.59
Accounts Receivable									
Chemical & Pigments Company	20 815.40	14 775.27	6 040.13				20 815.40	14 775.27	6 040.13
E. I. du Pont de Nemours & Co.	8 011.06	7 565.03	446.03				8 011.06	7 565.03	446.03
Grasselli Chemical Company	0	7 597.46	7 597.46				0	7 597.46	7 597.46
Krebs Pigment & Chemical Co.	6.57	11 009.91	11 016.48				6.57	11,009.91	11 016.48
R. T. Vanderbilt Co.	52 423.46	45 484.88	6 938.58				52 423.46	45 484.88	6 938.58
Sherwin Williams	13 918.42	2 292.37	11 626.05				13 918.42	2 292.37	11 626.05
Interest Receivable (Travancord Bonds)	1 413.43	1 130.94	282.49				1 413.43	1 130.94	282.49
Items less than $1 000.00	1 357.52	1 409.91	52.32	232.88	182.59	50.29	1 590.47	1 592.50	2.03
TOTAL ACCOUNTS RECEIVABLE	97 932.79	91 265.77	6 667.02	232.88	182.59	50.29	98 165.67	91 448.36	6 717.31

Inventories									
Raw Materials	210 499.20	223 474.22	12 975.02				210 499.20	223 474.22	12 975.02
In Process	22 502.15	20 255.43	2 246.72				22 502.15	20 255.43	2 246.72
Finished Product	69 373.64	63 257.81	6 115.83				69 373.64	63 257.81	6 115.83
TOTAL INVENTORIES	302 374.99	306 987.46	4 612.47				302 374.99	306 987.46	4 612.47
Stores & Tools	22 378.13	24 006.16	1 628.03				22 378.13	24 006.16	1 628.03
Deferred Charges									
Prepaid Insurance	9 659.39	4 659.54	4 999.85				9 659.39	4 659.54	4 999.85
Suspension (Advance a/c purchase of land)	5 272.59	49.21	5 321.80	14.58	0	14.58	5 258.01	49.21	5 307.22
TOTAL PREFERRED CHARGES	14 931.98	4 610.33	10 321.65	14.58	0	14.58	14 917.40	4 610.33	10 307.07
TOTAL CURRENT ASSETS	654 192.51	512 563.97	141 628.54	7 591.84	7 927.91	336.07	661 784.35	520 491.88	141 292.47
Furniture & Fixtures (New York Office)	415.30	415.30	0	0	0	0	415.30	415.30	0
Plant & Equipment (Baltimore)	1 429 941.72	1 426 011.82	3 929.90	0	0	0	1 429 941.72	1 426 011.82	3 929.90
Investment Stocks & Bonds									
2 Shares Titanuite Ltd. £1 each	9.70*	9.70*	0				9.70*	9.70*	0
Loan of £250 to Titanuite Ltd. carried as investment	1 213.59*	1 213.59*	0				1 213.59*	1 213.59*	0
150 Bonds Travancore Minerals Co. Ltd.	70 667.50	70 667.50	0				70 667.50	70 667.50	0
17 490 "A" Shares Travancore Minerals Co. Ltd.	4 241.35	4 241.35	0				4 241.35	4 241.35	0
4 500 Ordinary Shares Travancore Minerals Co. Ltd.	2 763.52	2 763.52	0				2 763.52	2 763.52	0
TOTAL INVESTMENT STOCKS & BONDS	78 895.66	78 895.66	0	0	0	0	78 895.66	78 895.66	0
Investigation of Ore Lands	0	0	0	1 134.17*	993.98*	140.19	1 134.17*	993.98*	140.19
Prepaid Royalties (Blumann Rare Earths Chemical Company	126 800.45	127 755.46	955.01	0	0	0	126 800.45	127 755.46	955.01
TOTAL FIXED & MISC'L. ASSETS	1 636 053.13	1 633 078.24	2 974.89	1 134.17	993.98	140.19	1 637 187.30	1 634 072.22	3 115.08
TOTAL ASSETS	2 290 245.64	2 145 642.21	144 603.43	8 726.01	8 921.89	195.88	2 298 971.65	2 154 564.10	144 407.55

*Items consisting of Investment in Titanuite, Ltd. and Investigation of Ore Lands will be retained by Commercial Pigments Corporation.

Exhibit 177

SCHEDULE "A"

COMPARATIVE BALANCE SHEET

COMMERCIAL PIGMENTS CORP. AND AMERICAN ILMENITE CORP. CONSOLIDATED

For Months Ending April 30 and May 31, 1931—

LIABILITIES

	COMMERCIAL PIGMENTS CORP.			AMERICAN ILMENITE CORP.			CONSOLIDATED		
	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease	May 1931	April 1931	Increase or Decrease
Accounts Payable									
U. S. Industrial Alcohol Co.	5 000.00	0	5 000.00				5 000.00	0	5 000.00
Commercial Pigments—Payroll	4 208.17	0	4 208.17				4 208.17	0	4 208.17
General Chemical Co.	2 007.69	2 017.58	9.89				2 007.69	2 017.58	9.89
Mexican Petroleum Corp.	3 781.59	3 444.10	337.49				3 781.59	3 444.10	337.49
Standard Acid Works	7 955.91	20 524.82	12 568.91				7 955.91	20 524.82	12 568.91
Consolidated Gas Elec. Light & Power	5 848.47	5 219.80	628.67				5 848.47	5 219.80	628.67
Virginia Barrel Co. Inc.	1 801.55	1 793.88	7.67				1 801.55	1 793.88	7.67
Henry Kelly Brent	5 829.70	0	5 829.70				5 829.70	0	5 829.70
E. I. du Pont de Nemours & Co.	0	1 246.51	1 246.51				0	1 246.51	1 246.51
Travancore Minerals Co., Ltd.	40 721.76	40 535.96	185.80				40 721.76	40 535.96	185.80
Unclaimed Wages	15.10	15.10	0				15.10	15.10	0
Items less than $1 000.00	9 311.83	8 559.19	752.64	0	89.87	89.87	9 311.83	8 649.06	662.77
TOTAL ACCOUNTS PAYABLE	86 481.77	83 356.94	3 124.83	0	89.87	89.87	86 481.77	83 446.81	3 034.96
Deferred Liabilities									
Accrued Payroll	485.12	3 215.83	2 730.71				485.12	3 215.83	2 730.71
Accrued Insurance (Workmen's Compensation & Public Liability)	2 547.69	1 907.74	639.95				2 547.69	1 907.74	639.95
Accrued Taxes (Real Estate & Personal Property-Baltimore Plant)	1 564.18	1 264.18	300.00				1 564.18	1 264.18	300.00
Accrued Water Tax	1 009.08	1 756.49	747.41				1 009.08	1 756.49	747.41
Accrued Federal Income Tax	9 416.68*	4 734.67*	4,682.01	651.08*	663.80*	12.72	10 067.76*	5 398.47*	4 669.29
TOTAL DEFERRED LIABILITIES	15 022.75	12 878.91	2 143.84	651.08	663.80	12.72	15 673.83	13 542.71	2 131.12
TOTAL CURRENT LIABILITIES	101 504.52	96 235.85	5 268.67	651.08	753.67	102.59	102 155.60	96 989.52	5 166.08
NET WORTH	2 188 741.12	2 049 406.36	139,334.76	8 074.93	8 168.22	93.29	2 196 816.05	2 057 574.58	139 241.47
TOTAL LIABILITIES	2 290 245.64	2 145 642.21	144 603.43	8 726.01	8 921.89	195.88	2 298 971.65	2 154 564.10	144 407.55
NET WORKING CAPITAL	552 687.99	416 328.12	136 359.87	6 940.76	7 174.24	233.48	559 628.75	423 502.36	136 126.39
NET FIXED & MISCL. CAPITAL	1 636 053.13	1 633 078.24	2 974.89	1 134.17	993.98	140.19	1 637 187.30	1 634 072.22	3 115.08
NET WORTH	2 188 741.12	2 049 406.36	139 334.76	8 074.93	8 168.22	93.29	2 196 816.05	2 057 574.58	139 241.47

*Item of accrued Federal Income Tax will be retained by Commercial Pigments Corporation.

Exhibit 177

EXHIBIT "B"

COMMERCIAL PIGMENTS CORPORATION

INCOME AND EXPENSE STATEMENT

MONTH OF NOVEMBER 1930

Sales	$50,830.10	
Cost of Sales	39,547.91	
		($11,282.19
New York Expense	292.11	
London Office Expense	117.98	
Research & Development Expense	1,377.74	
Plant Office Expense	3,337.15	
Service Dept. Expense	2,807.15	
		7,932.13
Operating Profit		$ 3,350.06
Interest Earned	323.50	
Discount Earned	99.16	
Royalties Earned	—	
		422.66
		3,772.72
Discount Given		365.63
Net Profit		$3,407.09

Exhibit 177

SCHEDULE "B"

Comparison of Plant Inventories

For Months Ending April 30, and May 31, 1931

	MAY 31, 1931			APRIL 30, 1931		
	Quantity	Unit Price	Amount	Quantity	Unit Price	Amount
Raw Materials						
Ilmenite—new (TiO_2 Content)	20 187 578	.010103	203 955.10	21 487 692	.010099	217 004.20
Ilmenite—#2 (TiO_2 Content)	126 971			128 794	—	—
Sulphuric Acid—New	419 875	.006142	2 579.01	191 856	.006156	1 181.01
Sodium Silicate	220	.013034	2.87	1 980	.013146	26.03
Copper Sulphate	22 725	.041660	946.71	36 900	.042904	1 583.16
Iron Sulphide	43 463	.027411	1 191.38	58 000	.026888	1 559.50
Iron Filings	169 971	.005728	973.61	139 098	.005885	818.54
Potassium Carbonate	—	—	—	2 980	.056259	167.65
Zinc	—	—	—	1 800	.057840	104.11
Glauber Salts	4 800	.016300	78.24	4 800	.016300	78.24
Sodium Chlorate	500	.077160	38.58	500	.077160	38.58
Magnesium Sulphate	1 260	.020215	25.47	1 260	.020752	26.15
Containers (each)	5 008	—	445.75	10 612	—	620.51
Fuel Oil (gal.)	7 319	.024269	177.62	6 984	.026013	181.68
Coal	37 317	.002274	84.86	37 317	.002274	84.86
			210 499.20			223 474.22
	TiO_2 Content	Calc. Cont.		TiO_2 Content	Calc. Cont.	
In Process						
Mass Stock	39 480	24 478	.05072	1 241.52	38 094	22 095	.05666	1 251.90
Solution Stock	90 244	70 029	.05562	3 895.01	92 717	69 074	.06276	4 335.08
Hydrolysis Stock	10 466	9 419	.06282	591.70	4 738	4 084	.07126	291.03
Filtration Stock	43 073	40 618	.06872	2 791.27	44 216	39 971	.07806	3 120.14
Unpacked calcined	83 202	83 202	.07652	6 367.50	69 410	69 410	.08706	6 045.67
Grinding Stock		98 476	.07733	7 615.15		58 564	.08899	5 211.61
		326 222	.06898	22 502.15		263 198	.07696	20 255.43
Finished Product						
Ground—FFF (Dry ground material)		59 223	.120406	7 130.80		83 924	.120306	10 096.56
Ground—FF (Ground material thru Ball Mill —difference in tinting)		217 466	.093095	20 245.00		100 207	.111548	11 177.89
Ground—F (Same as FF—poorer quality)		144 050	.135802	19 562.28		153 300	.136023	20 852.33
Unground—LL (Unground material)		131 124	.099049	11 938.71		114 874	.098887	11 359.55
		551 863	.106687	58 876.79		452 305	.118253	53 486.33
Sweepings SS Packed—Plant		52 000	.039925	2 076.10		52 000	.039695	2 064.14
Sweepings SS Packed—Warehouse		210 914	.039925	8 420.75		194 164	.039695	7 707.34
Acid Cake		0	—	0		0	—	0
		814 777	.085144	69 373.64		698 469	.090566	63 257.81
Total				302 374.99	Total			306 987.46

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Exhibit 177

EXHIBIT "C"

PRELIMINARY PRO-FORMA BALANCE SHEET

	As of Nov. 30, 1930		Adjusted to March 31, 1931 to Reflect New Construction and Increased Working Capital	
	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation
ASSETS:				
Working Cash	$ 555,300	$ 76,872	505,000(g)	58,000(g)
Ilmenite Inventory	—	119,700	—	298,000(h)
Other Inventory	1,593,694	164,961	1,463,000	182,000
Accounts Receivable	756,430	60,250	684,000	99,000
Deferred Assets	139,159	26,902	130,000	18,000
Current Assets	$3,044,583	$ 448,685	$2,782,000	655,000
Travancore Investment at Cost	—	78,896(b)	—	78,896
Purchased Patents at Cost	—	192,500(c)	—	192,500
Paid-up Royalties	—	128,600(d)	—	128,600
Plants (Newark	2,586,038	—	2,586,038	—
(Newport	2,273,045	—	2,273,045	—
(Baltimore	—	1,139,236	—	1,439,236(i)
Total Assets	$7,903,666(a)	$1,987,917	$7,641,083	$2,494,232
LIABILITIES:				
Accounts Payable	104,740	27,898	98,000	13,000
Deferred Liabilities	107,491	7,502	98,000	13,000
Current Liabilities	212,231	35,400	196,000	26,000
Reserve for Depreciation	1,698,910	30,000(e)	1,789,710(j)	54,000(k)
Total Liabilities	1,911,141	65,400	1,985,710	80,000
Net Worth	$5,992,525	$1,922,517(f)	$5,655,373	$2,414,232
			70.1%	29.9%

(a) Philadelphia lithopone plant (book value $401,410) is not included here for the reason that the plant was shut down in December 1930. It will not be needed during 1931 and it is questionable whether it will ever be used again for lithopone production. Commercial Solvents Corporation is willing to stipulate, however, that the directors of the consolidated company may authorize purchase of the Philadelphia plant at book value whenever they feel it is needed.

(b) Investment in Travancore Minerals Company, Ltd., which operates concession in India to recover ilmenite from beach sands, includes:

6% Prior Lien Debentures	$ 75,000
17,490 shares A stock (representing a 50% interest in earnings and a 40% interest in vote) carried at cost	3,896
	$ 78,896

Commercial Pigments lien and equity carried at $78,896, has a book value of $91,230 as shown on Exhibit J.

(c) Purchased patents include:

$ 50,000	Paid in cash to the Glidden Company for a group of patents under which Commercial Pigments Corp. licenses certain customers, including Grasselli and Krebs, to manufacture titanated lithopone.
142,500	Paid in stock to Blumenfeld for the patented process under which Commercial Pigments manufactures TiO_2. Blumenfeld was given 10% of the stock of the original Commercial Pigments Corp. and the remaining 90% was issued for $1,282,500 in cash, thus placing a value of $142,500 on Blumenfeld's stock. This stock was subsequently exchanged for Commercial Solvents stock in order to eliminate the minority interest in the Pigments Corporation.
$192,500	

(d) Blumenfeld process was purchased for stock, as explained in (c), plus certain royalties. These royalties were subsequently commuted for a cash payment of $128,600. This item for paid-up royalties is included in deferred assets on Commercial Pigments balance sheet (Exhibit A)

(e) Commercial Pigments has not yet set aside any depreciation reserve. Of the $1,139,236 in buildings and equipment on Nov. 30, 1930, about 500,000 had been erected subsequent to acquisition by Commercial Solvents in October 1929, and only about $600,000 had been in existence more than one year. For the present purpose, depreciation reserve was arbitrarily set up at 5% of $600,000, or $30,000.

(f) Net worth of $1,922,517 shown here for Commercial Pigments as of Nov. 30, 1931, compares with Commercial Pigments statement for that date (Exhibit A) as follows:

Due Commercial Solvents Corp.		$ 900,000
Capital Stock		1,282,500
Total cash investment		$ 2,182,500
Cash paid for Glidden patents	$ 50,000	
Development expense, initial operating losses, etc.	372,483	
Deficit Nov. 30, 1930		422,483
Net worth per Exhibit A		$ 1,760,017
Cash paid for Glidden patents		50,000
Cash value of stock paid for Blumenfeld patents		142,500
		152,917
Depreciation reserve		30,000
Net worth per Exhibit C		$ 1,922,517

(g) Cash set up to equal cost of sales for one month as forecasted for 1931.

(h) Ilmenite can be shipped from Travancore only during U.S. winter months. Ilmenite inventory will be increased from about 9000 tons to about 25,000 tons by deliveries made from Dec. 1930 to March 1931.

(i) $1,139,236 as of Nov. 30, 1930, plus $300,000 subsequently expended to bring plant capacity up to 21.5 tons daily.

(j) $80,800 increase in Grasselli depreciation reserve from Nov. 30 to March 31 is based on a credit of $20,200 per month (5% annually on $4,859,083)

(k) $24,000 increase in Commercial Pigments depreciation reserve from Nov. 30 to March 31 is based on a credit of $6,000 per month (5% annually on $1,439,236).

Exhibit 177

EXHIBIT "D"

MARKET VALUE

I. Market value du Pont common (1930 High 145¼ (Apr.10)
(" Low 80½ (Dec.17)
(" Last 86¾ (Dec.31)

Total market value
(11,013,985 sh. as of 11/30/30) (1930 High $1,600,000,000
(" Low 887,000,000
(" Last 956,000,000

Portion of market value assignable to Grasselli lithopone and dry color business:

Basis	Total du Pont	Lithopone & Dry Colors	Ratio
Net asset value as of 11/30/30	$418,000,729	$6,566,985	1.571%
Earnings, 11 mos. 1930 adjusted to annual basis.....	50,248,996*	746,808	1.486%

(*Including equity in General Motors earnings rather than dividends received from General Motors)

Market value of Grasselli lithopone and dry color business, assumed to be 1.5% of total market value, works out as follows:

(1930 High 1.5% of $1,600,000,000 = $24,000,000
(" Low " " 887,000,000 = 13,310,000
(" Last " " 956,000,000 = 14,340,000

II. Market value Commercial Solvents common 1930 (High 38 (Apr.11)
(Low 14 (Dec.17)
(Last 15½ (Dec.31)

Portion of market value assignable to Commercial Pigments Corp.

Basis	Commercial Solvents (Consolidated)	Commercial Pigments Corp.	Ratio
Net asset value.....	$11,685,343 (11/30/30)	$2,030,017 (11/30/30)	17.37%
Earnings, 9 mos. 1930 x 12/9	2,840,000	None	zero

Exhibit 177

Because of the newness of Commercial Pigments business, neither assets nor earnings appears to offer a satisfactory basis for allocating market value to the pigments business, and it is therefore necessary to ascertain market value by a different method. In October 1929, Commercial Solvents issued 124,440 shares to acquire capital stock of Commercial Pigments. This has subsequently been increased to 127,929 shares by a 2% stock dividend in March 1930, and to 130,487 shares by a 2% stock dividend in September 1930. In addition to the interest represented by these shares, Commercial Solvents has loaned Commercial Pigments $1,200,000 of new money (which is included in the $2,030,017 net asset value shown above). On this basis, market value of Commercial Pigments business might be viewed as follows:

	Value Acquired			New Money	Total Commercial Pigments
(1930 High	124,440 sh. @ 38	=	$4,730,000	$1,200,000	$5,930,000
(" Low	127,929 " " 14	=	1,790,000	1,200,000	2,990,000
(" Last	130,487 " " 15½	=	2,020,000	1,200,000	3,220,000

III. Consolidated market value:

	Grasselli Lithopone & Dry Colors	Commercial Pigments Corporation	Consolidated
(1930 High	$24,000,000	$5,930,000	$29,930,000
(" Low	13,310,000	2,990,000	16,300,000
(" Last	14,340,000	3,220,000	17,560,000
(1930 High	80.2%	19.8%	100.0%
(" Low	81.6	18.4	100.0
(" Last	81.7	18.3	100.0

Exhibit 177

EXHIBIT "E"

COMMERCIAL PIGMENTS CORPORATION

Estimated Ingredients Cost

	Actual Oct. 1930	Avg. Inventory Value 1931 (a)	Delivered in 1931 (b)	Delivered in 1932 (c)
Cost of Ilmenite				
Cost of ilmenite f.a.s. India	30 sh.		25 sh.	20 sh.
Freight to Baltimore	24		20	22
Total per 2240 lbs. (shillings)	54		45	42
" " " " (dollars)	$13.11		$10.95	$10.20
Switching charge in Baltimore	.15		.15	.15
Unloading charge at plant	.05		.05	.05
Cost per 2240 lbs. ilmenite in stock pile	$13.31	$11.92	$11.15	$10.40
Cost per 1165 lbs. TiO_2 (52%) in stock pile	13.31	11.92	11.15	10.40
Cost per 1000 lbs. TiO_2 (52%) in stock pile	11.42	10.24	9.57	8.93
Overall yield*	78.9%	86.4%	86.4%	86.4%
Cost of ilmenite per 1000 lbs. of product	$14.45	$11.87	$11.08	$10.33
Cost of ilmenite per lb. of product	1.448¢	1.187¢	1.108¢	1.033¢

*Details of overall yield:

	Approx. Actual Oct. 1930	Estimated Mar. 1931
Conversion on attack of new ore	77.5% (d)	80.0% (d)
Additional conversion on re-attack	17.4	16.0
Total conversion on attack	94.9	96.0
Conversion on hydrolysis	94.5	94.5
" " filtering	90.6 (e)	98.0 (e)
" " calcining	97.5	97.5
" " grinding	99.7	99.7
Conversion subsequent to attack	83.2	90.0
Overall yield	78.9%	86.4%

EXHIBIT "E"—Continued

(a) Average inventory value obtained as follows:

9,000 tons ilmenite on hand	@	$13.31 =	$119,700
16,000 " " delivered	@	11.15 =	178,300
25,000 tons total inventory	@	11.92 =	$298,000

(b) This column refers to ilmenite mined by Travancore during fiscal year ende March 31, 1931 and delivered at Baltimore from Dec. 1930 to April 1931.

(c) This column refers to ilmenite to be mined by Travancore during fiscal ye ending March 31, 1932 and to be delivered at Baltimore from Dec. 19 to April 1932.

(d) Low conversion in October was due to difficulty with old attack pans. Ne attack pans, subsequently installed, show 80% conversion in December.

(e) Filtering in October was without preliminary settling and with unsatisfacto filtering medium. It is expected that preliminary settling in Dorr equipme followed by filtration thru asbestos cloth will give considerably better co version.

II. Cost of Acid

20% fuming acid is purchased from Standard Acid & Phosphate Wor at the following cost:

$9.50 per T of 60° Be =	$12.23 per T of 100% H_2SO_4
Add freight	.15 per T
Cost delivered	12.38 per T .619¢

		Actual Oct. 1930	Estimated Mar. 1931
Cost of acid per lb. acid		.619¢	.619¢
Acid used per lb. TiO_2 attacked		2.66 lb.	2.66 lb.
Conversion	On attack	77.5%	80.0%
	Subsequent to attack	83.2	90.0
	Overall	64.4	72.0
Acid used per lb. of product		4.13 lb.	3.70 lb.
Recovery (38° acid)	To be re-used	—	0.36 lb.
	To be sold @ 0.3¢	—	1.36
	Total 38° recovered	—	1.72

Exhibit 177

EXHIBIT "E"—Continued

Cost of acid per lb. of product:

	Actual Oct. 1930 Lbs.	¢	Estimated Mar. 1931 Lbs.	¢
Acid used in attack, 0.62¢ per lb.	4.13	2.56	3.70	2.29
Recovered acid (38°) re-used	—	—	.36	.22
New acid (20% fuming) required	4.13	2.56	3.34	2.07
Credit for acid (38°) sold @ 0.3¢	—	—	1.36	.41
Net cost for acid		2.56¢		1.66¢

. Cost of Ingredients Other than Ilmenite and Acid

	Actual Oct. 1930	Estimated Mar. 1931	
Copper sulphate	0.324¢	0.100¢	(a)
Iron filings	.111	.081	(b)
Iron sulphide, potassium sulphide, etc.	.184	.184	
Total per lb. of product	0.619¢	0.365¢	

(a) Reduction due to proposed recovery of copper from mud, made possible by fact that mud now contains 8-10% copper whereas it formerly contained only 2% copper.

(b) Saving due to proposal to reduce mud liquor with iron *before* dissolving mass instead of reducing *after* dissolving mass.

. Summary of Ingredients Cost.

	Actual Oct. 1930	Estimated Mar. 1931
Ilmenite	1.45¢	1.19¢
Acid	2.56	1.66
Other Ingredients	0.62	0.37
Total per lb. of product	4.63¢	3.22¢

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Exhibit 177

EXHIBIT "F"

COMMERCIAL PIGMENTS CORPORATION

Estimated Conversion Cost

	Actual Oct. 1930	Estimated Mar. 1931
Production	280 T	650 T
Plant supervision	$ 1,500	
" laboratory	1,300	
Insurance (fire & liability)	1,200	
Plant Office	1,100	
Miscellaneous	2,700	
Total plant overhead	$ 7,700	$ 8,000
Labor (operating and maintenance)	18,600	18,000
Supplies (" " ")	9,700	7,600
Gas (for calcining)	1,600	3,000
Coal (for boilers for steam drying)	2,800	—
Oil (" " " " ")	—	2,800
" (" direct drying)	—	1,200
Water (for washing)	1,000	1,500
Electric power	2,500	3,500
Total conversion cost	$43,900	$45,600
Conversion cost per lb.	7.53¢	3.51¢
Total conversion cost		$45,600
Fixed: Portion assumed to be fixed per month, regardless of production		30,000
Variable: Portion assumed to vary directly with production (1.20¢ per lb. of product)		$15,600

(a) In October there were 150 men on the plant payroll, and it has been estimated that only 127 men will be required for new plant in spite of greater production.

Exhibit 177

EXHIBIT "G"

COMMERCIAL PIGMENTS CORPORATION

ESTIMATED MILL COST

	Actual October 1930 280 tons		Estimated March 1931 650 tons (g)	
	Amount	Per Lb.	Amount	Per Lb.
Ilmenite		1.45¢		1.19¢
Acid		2.56		1.66
Other Ingredients		0.62		0.37
Total Ingredients (a)	$25,900	4.63¢	$41,800	3.22¢
Barrels	1,800	0.32	4,200	0.32
Conversion (b) Variable	13,900	2.48	15,600	1.20
Conversion (b) Fixed	30,000	5.35	30,000	2.31
Research (Terre Haute)	2,000	0.36	2,000	.15
Depreciation	2,900(c)	0.52	5,800(d)	.45
Total Mill Cost	76,500	13.66¢	99,400	7.65
Variable Cost (e)	41,600	7.43	61,600	4.74
Fixed Cost (f)	34,900	6.23	37,800	2.91
Total Mill Cost	$76,500	13.66¢	$99,400	7.65¢

(a) For details of ingredients cost see Exhibit "E"
(b) " " " conversion " " " "F"
(c) Depreciation 5% per annum on $ 700,000
(d) " " " " " 1,400,000
(e) Portion of mill cost assumed to *vary* directly with production
(f) Portion of mill cost assumed to be *fixed* per month regardless of production
(g) 650 tons per month is based on estimated capacity of 21.5 tons per day with continuous operation

Exhibit 177

EXHIBIT "H"

COMMERCIAL PIGMENTS CORPORATION

ESTIMATED SALES for 1931
at Present Prices

		1931 Sales now in Sight		
		Tons of TiO_2	Net Price per Lb.	Dollar Sales
For Re-sale:				
R. T. Vanderbilt*		1,700	17.67¢	$ 601,000
For Titanated Lithopone:				
du Pont	500 T			
Glidden	300			
United	130			
		930	15.50¢	288,000
For Paint & Misc:				
du Pont	250 T			
Glidden	50			
Sherwin-Williams	200			
		500	16.25¢	163,000
Total Sales		3,130	16.80¢	$1,052,000

* R. T. Vanderbilt has contract running to the spring of 1932 to handle sale of TiO_2 to all customers except lithopone manufacturers and the Sherwin-Williams Company. 17.67¢ is average price before deducting 10% commission.

Vanderbilt sold 90 tons in January 1931 and forecast of 1,700 tons (142 tons per month) is based on increasing sales up to 200 tons in December 1931 as follows:

	Jan. Actual	Avg. Month 1931	Dec. Estimated
Paint industry	85 T	85 T	85 T
Glass & ceramic industry	5	60	115
	90 T	145 T	200 T

Sale to glass and ceramic industry is just beginning, and Vanderbilt has advised Commercial Pigments Corp. that he expects these sales to reach 100 to 200 tons per month by the end of the year.

EXHIBIT "I"

COMMERCIAL PIGMENTS CORPORATION

STATEMENT OF SALES OF TITANIUM DIOXIDE
IN POUNDS, FOR THE FIRST SIX MONTHS OF 1931.

	R.T.V.	Dupont	Krebs	Grasselli	Glidden	SW	United Color & Pig.	Total
January	177,034	47,000	72,000	40,000	36,000	10,500	—	382,534
February	166,438	44,750	36,000	50,000	40,000	10,250	12,000	359,428
March	242,824	42,750	74,000	50,000	50,000	57,250	10,000	526,824
April	273,800	93,250	72,000	50,000	90,000	50,500	—	629,550
May	333,453	145,750	40,000	—	128,000	79,000	20,000	746,203
June	130,085	135,250	80,000	50,000	40,000	59,500	36,500	531,335
6 Months Total	1,323,634	508,750	374,000	240,000	384,000	267,000	78,500	3,175,884

ACTUAL VS. FORECAST

	Actual 6 Mos.	Year 1931 6 Mos. x 1.19	Forecast
R. T. Vanderbilt	662 Tons	1257 Tons	1700 Tons
DuPont, Krebs & Grasselli	561	1066	750
Glidden Co.	192	365	350
Sherwin-Williams	133	253	200
United Color & Pigment	39	74	130
Total	1587 Tons	3015 Tons	3130 Tons

*—Forecast made in Feb. 1931 and shown as Exhibit "H" in Development Dept. report S—2402.

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EXHIBIT "I"

COMPARATIVE INCOME STATEMENT

YEAR 1931—ESTIMATED

	Lithopone			Dry Colors		Total Grasselli, Lithopone & DryColors		Commercial Pigments Corporation			Consolidated	
	Amount	Per Lb.	% of Sales	Amount	% of Sales	Amount	% of Sales	Amount	Per Lb.	% of Sales	Amount	% of Sales
Net Sales:												
Pounds	118,000,000#							6,260,000#				
Dollars	$5,068,600[c]	4.30¢	100.0	$1,772,800	100.0	$6,841,400	100.0	$1,052,000	16.80¢	100.0	$7,893,400	100.0
Mill Cost	3,948,900	3.35	77.9	1,477,000	83.3	5,425,900	79.3	729,600[b]	11.65¢	69.4	6,155,500	78.0
Profit over Mill Cost	$1,119,700	0.95¢	22.1	$ 295,800	16.7	$1,415,500	20.7	$. 322,400	5.15¢	30.6	1,737,900	22.0
Selling Expense						336,000	4.9	64.500[c]		6.1	400,500	5.1
Admin. Expense						300,000	4.4	46,300		4.4	346,300	4.4
Total Sell. & Admin.						636,000	9.3	110,800		10.5	746,800	9.5
Net Receipts:						779,500	11.4	211 600		20.1	991,100	12.5
Interest on Cash 2%						11,100		1,300			12,600	
Misc. Income						31,600[a]		25,600[d]			57,200	
Total Income						822,200		238,700			1,060,900	
Federal Tax (12%)						98,700		28,700			127,400	
Net Income						$ 723,500		$ 210,000			$ 933,500	
						77.5%		22.5%			100.0%	

(a) $31,600 represents 5% selling commission on sale of alumina hydrate and zinc oxide manufactured by Grasselli at East Chicago and sold by Pigment Division. 1931 sales are estimated at $632,000.

(b) Mill cost for Commercial Pigments is estimated on basis that plant is shut down during January and February at an expense of $27,800 per month and that the 6,260,000 lbs. of TiO_2 is to be produced in the last ten months of the year at the rate of 626,000 lbs. per month. Mill cost (Exhibit G) for each month the plant is operated will be $37,800 plus $29,600 (626,000 lbs. @ 4.74¢), or $67,400. Mill cost for the year will be:

(2 months @	$27,800 =	$ 55,600 =	.89¢ idle mill expense
(10 " "	67,400 =	674,000	10.76¢ per lb. when producing 313 T per month (48% of capacity)
	729,600		11.65¢ per lb. for calendar year

(c) Selling expense for Commercial Pigments includes:
(a) $60,000 (10% commission) on $601,000 sold by R. T. Vanderbilt; and (b) $4,500 (1%) on $451,000 sold direct to du Pont, Glidden, United and S-W, which are already under contract for 1931 but are not yet under contract for 1932.

(d) $25,600 represents equity in earnings of Travancore Minerals Co., Ltd., for fiscal year ending March 31, 1931. (Exhibit K)

(e) Lithopone sales include

{Lithopone	112,100,000 lbs.	$4,693,700	4.18¢ per lb.
{Titanated Lithopone	5,900,000	374,900	6.16
	118,000,000	5,068,600	4.30¢

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EXHIBIT "J"

TRAVANCORE MINERALS COMPANY

BALANCE SHEET—SEPT. 30, 1930

	Cash	£ 9935/11/6				
(1)	Accounts Receivable	6617/7/9				
(2)	Stocks of Ore	15241/19/2				
	Stores	1955/1/7				
	Trade Investments	605/11/11				
	Patents	1/0/0				
(3)	Plant Investment	7679/14/11				
	Furniture & Fixtures	1/0/0				
(4)	Lease & Good Will	7500/0/0				
(5)	Accounts Payable		£ 1792/2/6			
	Income Tax Reserve		750/7/2			
	Reserve for Allowances		500/0/0			
(6)	Special Reserve		1727/19/1			
	5% Debentures		13989/0/0	Value at Par		Com. Pigments Lien & Equity
	Accrued Interest		135/10/3			
(7)	6% Prior Lien Debentures		20000/0/0	$97,330	¾	72,998
	Accrued Interest		232/10/0			
	35,000 shares 7% Preferred		1750/0/0			
	35,000 Ordinary Shares (voting)		1750/0/0			
(8)	23,320 A Shares (voting)		1166/0/0	5,674	¾	4,255
(9)	Surplus		5743/17/10	27,953	⅔ x ¾	13,977
		£49537/6/10	£49537/6/10			$91,230

(1) £5600 of this due from S. T. R. and Commercial Pigments for ilmenite sales

(2) Ilmenite 15,000 tons since sold carried at 9 shillings
Monazite 3,800 tons carried at £2
Balance sundry ores carried at cost which is less than selling value

(3) Depreciated value

(4) Amount paid for lease

(5) Royalties and sales commissions largely

(6) For moving plant if present plant site cannot be leased for further term of years.

(7) Commercial Pigments owns ¾ of the 6% debentures, or £15,000

(8) These shares entitled to ⅔ of profit after interest on 5% and 6% debentures and sinking fund and 6% debentures. They represent ⅔ of the vote. Commercial Pigments owns ¾ of these shares, or 17,490 shares.

(9) (⅓ of surplus is applicable to ordinary shares
(⅔ " " " " " A shares

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Stock Ilmenite Sept. 30, 1930	15,000 tons	@ 9 S
Produced Sept. 30 to March 31	8,800 "	@ 6 S
Stock at start of shipping season	23,800 "	@ 7.93 S
Stock zircon Sept. 30, 1930	30 "	@ 38.5 S
Produced Sept. 30 to March 31	700 "	@ 20 S
Stock at start of shipping season	730 "	@ 20.61 S
Monazite stock (no production last 6 mos.)	3,803 "	@ 40 S

All figures long tons

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Exhibit 177

EXHIBIT "K"

TRAVANCORE MINERALS COMPANY

ESTIMATED EARNINGS FOR YEAR ENDING MARCH 31, 1931

	Sales Actually Made		Adjusted to Reflect Com. Pig. Corp. Requirements Rather Than Purchases	
	Tons	£	Tons	£
Sales—Last 6 months of year				
Ilmenite to Comm. Pig. Corp. @ 25 S	16,000	20,000	7,000	8,750
" " Natl. Lead Co. @ 25 S	5,000	6,250	5,000	6,250
" " Europe @ 30 S	1,300	1,975	1,300	1,975
Zircon @ 200 S	500	5,000	300	3,000
Monazite @ 190 S	500	4,750	500	4,750
Total Sales		£37,975		£24,725
Deductions				
Loading ilmenite @ 2 S per ton		2,230		1,330
Loading & Bagging zircon @ 6 S per ton		150		90
Loading & Bagging monazite @ 6 S per ton		150		150
Sales Commission (chiefly to Com. Pig. Corp)		1,662		1,662
Freight on 1000 tons @ 22½ S		1,125		1,125
Total charges against sales		5,317		4,357
Net Sales		32,658		20,368
Cost of Sales				
Ilmenite @ 7.93 S per ton		8,843		5,270
Zircon @ 20.61 S " "		515		309
Monazite @ 40 S " "		1,000		1,000
		10,358		6,579
Gross Profits last 6 months		22,300		13,789

Exhibit 177

Deductions			
Royalty	750		
India Expense	600		
London expense	1,250		
Debenture interest	950		
Travancore tax	355		
	3,905	3,905	3,905
Profits before British Income Tax—Last 6 Mos.		18,395	9,884
Loss 1st half year		3,000	3,000
Profit for year before Income Tax		15,395	6,884
British Income Tax		3,464	1,547
Net Profits for Year		11,931	5,337
Sinking Fund Requirement		1,400	1,400
Amount available for dividends & development		10,531	3,937
Commercial Pigments Corp. equity in earnings			
	(⅔ x ¾)	£ 5,266	£ 1,969
		$25,625	$ 9,600

Exhibit 177

EXHIBIT "L"

OUTLINE OF COMMERCIAL PIGMENTS PROCESS FOR MAKING TiO_2

1. Ilmenite ore is attacked with sulphuric acid in an iron attack pan at a temperature of 170 to 180°. This results in a brown granular mass which is slightly acid.

2. The mass is put into solution with wash water coming from a later step in the process.—

   a. The undissolved ilmenite separates out and is sent back for a second attack but it is attacked separately instead of being mixed with new ore.

   b. The remaining solution is clarified with copper and a mud settles out.

3. After separation and clarification the solution is refrigerated to precipitate iron sulphate.

4. Iron sulphate is removed in a centrifuge.

5. An acid cake, which is the crude TiO_2 pigment, separates by gravity from the liquid and the excess liquid is drawn off.

6. The acid cake is washed and filtered. Asbestos is now being used as a filtering medium and it is the only one which has proved satisfactory because of the fineness of the material.

7. The cake is calcined and some soluble salts are added to take up excess acid.

8. The calcined material is ground, although a considerable portion of the product is now sold before grinding.

In this process the impurities come out in the mud, step #2 (b), and in the iron sulphate, step #4.

Exhibit 177.

EXHIBIT "M"

COPY

CHEMICAL DEPARTMENT

January 21, 1931

DR. FIN SPARRE, DIRECTOR
DEVELOPMENT DEPARTMENT

TiO_2 PATENT SITUATION

National Lead Patents Infringed by Commercial Pigments:

With our limited knowledge of the procedure followed by the Commercial Pigments Corporation, we have assumed that they infringe several patents owned by National Lead. In view of their recent statements as contained in Mr. Beadle's letter of January 9th, you may be interested in a statement of the possibilities in this matter. The four patents which we have thought must be infringed by Commercial Pigments are as follows:

1. Jebsen 1,333,819, March 16, 1920. See Claim 3 covering attack with less acid than is required to form normal salts of iron and titanium.

2. Wrigley & Spence 1,338,473, April 27, 1920. See Claim 6 covering subjecting solutions to a low temperature to remove iron as ferrous sulfate.

3. Fladmark 1,288,863, Dec. 24, 1918. See Claim 1 covering hydrolysis of a concentrated solution by heating.

4. Goldschmidt 1,348,129, July 27, 1920. This is the calcination patent. See Claims 1 and 3.

Mr. Chase denied infringement of the Jebsen patent. The above is not the only Jebsen patent, but it is presumably the one he meant. We agree that it is feasible to avoid infringement by using more sulfuric acid, and that is our procedure. We cannot understand how they can avoid infringement of the three other patents if their process is at all as we have understood it to be. Probably they consider them to be invalid, and we agree that there is reason for such confidence.

We have avoided infringement of Wrigley & Spence but are afraid this will be very difficult in the use of Canadian ore, which contains a higher ratio of iron to titanium. We have asked Mr. Biesterfeld whether we should be stopped by the patent (See Claim 4) from removing the iron sulfate which unavoidably crystallizes unless the solutions are kept hot. Our situation is somewhat different, however, from Commercial Pigments' because they must infringe the claims which mention "low temperature", whereas we should infringe only the very broad claim 4.

In regard to Eladmark, covering broadly concentrated hydrolysis, we have never asked for an opinion on its validity because we have thought it is essential to avoid concentrated hydrolysis as being the foundation of the processes of both National Lead and Commercial Pigments, and tied up in one way or another with many of the patents. We are now asking Mr. Biesterfeld for an opinion based on the article by Blondel published in 1899. It contains the following paragraph:

"A solution of 0.5 parts titanium dioxide in one part of concentrated sulfuric acid, diluted with 1.5 parts

of its weight of water, precipitates sulfates of titanium dioxide with compositions varying with the temperature and corresponding, for 100° to the formula $2TiO_2 \cdot SO_3$ † Aq., for 130° to the formula $7TiO_2 \cdot 2SO_3$ † Aq.."

The solution described by Blondel would contain 16⅔% of TiO_2 or about 200 grams per liter, well within Fladmark's range. Blondel hydrolyzed it by heating at 100° and at 130°. We think this reference is a good one.

In regard to Goldschmidt, Mr. Biesterfeld has already told us that this patent is probably invalid, and he is giving it further study. We expect to infringe it and we cannot see how Commercial Pigments can avoid it.

It is interesting to note that Commercial Pigments is probably infringing two patents which we have been very careful to avoid, namely, Wrigley & Spence and Fladmark. We think our preferred process infringes only one National Lead patent (Goldschmidt), unless we include the unimportant patent 1,196,030, which is probably also infringed by Commercial Pigments. It expires in 1933.

Commercial Pigments' Patents Infringed by Our Process.

The relation of our present process to Commercial Pigments' patents is more complicated, but practically is reduced to one existing patent and one in the Patent Office. The situation is as follows:

1. We infringe Claim 6 of 1,504,671 which is almost certainly invalid over Coffelt. It reads as follows: Claim 6 "In the treatment of ilmenite ore, the step of heating to about 160°C. by extraneous heat application, a mix-

ture of ilmenite ore and sulfuric acid of about 80% strength, until the reaction is substantially complete."

2. We may infringe Claim 2 of 1,504,669 which relates to hydrolysis of a solution substantially devoid of Tyndall effect. We have not regarded this patent as of much importance, but it deserves further study.

3. Reissues 17,429 and 17,430, relating to hydrolysis. In order to get good results with dilute hydrolysis, we have had to develop a procedure which involves gradual addition to water at 75° C., followed by boiling which precipitates the titanium compound. The details are important. The reissue patents cover a "diffusion" process, but the claims also cover broadly "gradual admixture". Weber in 1863 described "gradual addition", thereby certainly invalidating the broad claims of 17,429 if we infringe them. Claims 1 and 2 of 17,430 are the claims which bother us, but we are by no means at the end of our resources for invalidating these claims or avoiding them. Claim 2 reads: "The preparation of titanium dioxide or hydroxide by hydrolytic precipitation which comprises bringing together a solution of titanium sulfate with water, and retarding the rate of admixture so that the composite liquid first becomes gradually turbid and thereafter throws down the desired precipitate."

There is a British Patent 225,672 which covers "gradual addition" very definitely and a corresponding patent may be issued in this country. In view of the Weber disclosure, such a patent is not likely to be any more dangerous than the existing patents. Altogether, we are confident of solving this problem.

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4. We treat our precipitate with a potassium or sodium salt before calcination, and preferably with potassium sulfate. This is similar to the procedure which we know is followed by Commercial Pigments. There are two foreign patents, French and Canadian, and two German applications, which cover calcining titanium hydrate in the presence of substances which liberate sulfuric acid, particularly alkaline metal acid sulfates, and specifically potassium acid sulfate. We already have a good prior art reference in a Rossi & Barton patent on calcining in the presence of alkaline metal acid sulfate through the addition of sodium sulfate. We may find it desirable to neutralize before adding the alkaline metal sulfate, and we have therefore started an investigation of the validity of a National Lead patent on neutralization. We think it is invalid. We may summarize the situation as follows:

   1. No U.S. patent has as yet been issued on this procedure.
   2. We think the only valid claim will be one on calcining in presence of $KHSO_4$.
   3. We may avoid by using a *sodium* salt or by using a *neutral* sulfate.

Summary of our Patent Situation

According to our present point of view, the important patents which we infringe are:

1. Goldschmidt calcination patent
3. Blumenfeld hydrolysis patent

Exhibit 177.

3. Patent not yet issued on salt treatment before calcination.

We feel reasonably confident of being able to avoid these patents or to prove them almost certainly invalid. Details of our process will be modified from time to time as our study of these patents may suggest, but we think it is safe to go ahead along the lines of the present process, and expect a gradual clarification of the patent situation.

(S) HAMILTON BRADSHAW
ASSISTANT CHEMICAL DIRECTOR

Exhibit 177

Dec. 30, 1930

EXHIBIT "N"

COMMERCIAL PIGMENTS CORPORATION

This Company owns and operates a plant at Curtis Bay, Baltimore, for the manufacture of titanium dioxide under a process developed by Dr. Joseph Blumenfeld, a French chemical engineer. It owns the U. S. patents covering this process and also patents in respect to the manufacture of titanium lithopone, of which titanium dioxide is a [illegible] part.

The developments leading up to the acquisition of Commercial Pigments by Commercial Solvents have been briefly as follows:—In 1923, the Blumenfeld process was brought to the attention of a group of individuals which included some who were then and are now officers and directors of Commercial Solvents. This group acquired an informal option on the U. S. rights to the process and offered this option to Commercial Solvents without profit to the group. The Directors of Commercial Solvents decided on May 21, 1924 that the company was not interested in acquiring these rights. The group continued, however, to investigate the process until 1927 at which time, and in association with others, it caused the Commercial Pigments Corporation to be organized. The U. S. patent rights to the Blumenfeld process were turned over to the company, subject to royalty payments to the original owners, and stock was issued for these rights and for upwards of $1,250,000 cash paid into the company's treasury.

In September, 1929, acquisition of Commercial Pigments was proposed to Commercial Solvents, but this time,

as half the directors and some of the officers of Commercial Solvents were also directors and officers of Commercial Pigments and a majority of the directors and some of the officers of Commercial Solvents were among the 72 owners of Commercial Pigments Class B stock and stood to profit personally by the deal, a special meeting of Commercial Solvents stockholders was called for October 3rd, to act upon the proposal. Apparently the outcome was not very much in doubt as the notice to the Commercial Solvents stockholders calling the special meeting stated that the directors believed at least 84,000 of the total of 111,996 shares of Commercial Pigments Class B stock could be obtained on the proposed basis (10 shares commercial Solvents common for each 9 shares Commercial Pigments Class B stock) and it is presumed that the owners of this stock also controlled Commercial Solvents. The entire outstanding capital stock of Commercial Pigments Corporation was therefore acquired for 124,440 shares of Commercial Solvents common.

Earlier in the year (1929) Mr. Ticknor, President of Commercial Pigments as well as of Commercial Solvents, had been approached regarding possibility of the du Pont Company acquiring Commercial Pigments and it developed then that a deal could be made only on the basis of an unreasonably high valuation. Mr. Ticknor was not willing to propose to Commercial Pigments that they sell out for less than $5,000,000 although their total paid in capital was only $1,250,000. Mr. Ticknor explained that the owners of Commercial Pigments were all very wealthy men who engaged in the venture with the idea that the investment might prove to be a total loss or that they might profit handsomely. Therefore, unless the stockholders saw they were profiting by a few million dollars they would be unwilling

to sell out when prospects were good and Mr. Ticknor felt he would be in an embarrassing position if he proposed sale on any basis that would not net a large profit.

Of the $1,250,000 cash paid in by the stockholders, we understood that about $600,000 had been expended for plant, $250,000 was charged to patents, processes, etc., and $400,000 represented working assets.

The above facts are set forth here to throw some light on the acquisition of Commercial Pigments by Commercial Solvents after Mr Ticknor learned that the du Pont Company was not interested on the high valuation basis he suggested. Commercial Solvents bought all outstanding Commercial Pigments stock but paid, on the basis of the market value of Commercial Solvents stock the day the sale was approved by the Commercial Solvents stockholders, over 50% more than the figure discussed with du Pont representatives.

In other words, the good will figure of $3,750,000 that appeared in the $5,000,000 price to du Pont was, in effect, increased about two-thirds in selling to Commercial Solvents for stock having at that time a market value of over $7,500,000.

However, at today's deflated market value of about $15.00 per share for Commercial Solvents stock, the 124,440 shares issued for Commercial Pigments has a market value (after reflecting two 2% stock dividends paid during 1930) of $1,942,000, leaving under present conditions a good-will-figure of only $692,000. Commercial Solvents stock issued for Commercial Pigments is about 5.1% of the total outstanding but the net worth of Commercial Pigments is about 15% of the total net worth of Commercial Solvents.

Exhibit 177

Considering that Commercial Solvents has represented its subsidiary Commercial Pigments Corporation, by the sum of $933,567 in the 1929 consolidated balance sheet, which checks very well with our understanding of the investment in plant and working assets, it is probable that, in conformity with the practice to not attribute on its books any value for intangibles, this figure does not include any valuation for the interest owned by Commercial Pigments in the Travancore Minerals Company, Ltd., a British corporation owning in India concessions (renewed in 1929 for 15 years with an additional 15 years option) to recover ilmenite and other minerals from the beach sands near Muttan, Travancore, India.

These sands consist of between 70% and 80% ilmenite (a natural combination of iron and titanium oxides that is the principal material entering into the production of titanium dioxide), the balance being monazite, zircon, garnet, quartz, etc. The ilmenite is concentrated to a commercially pure product containing about 52% TiO_2, the balance being iron oxide, and shipped to Baltimore and to the European plants that also operate under the Blumenfeld process, these being located in France, Italy and Czecho-Slovakia, although Commercial Pigments will sell the Travancore product to any buyer. These European plants have now been in successful operation five years or more.

The 52% TiO_2 content of ilmenite is as high as that of any known source of TiO_2 except rutile which is about 96% TiO_2 but cannot be utilized economically.

During August last, Dr. Gillson had an interview with Mr. Priestly, manager of the Travancore Minerals Company's property in India, who was in this country for a brief business visit, and amongst other information ob-

tained (See Dr. Gillson's letter of 8/18/30 to Dr. Sparre, file 463-C) learned that they have been producing an average of about 1300 tons of ilmenite per month since March 1928. We do not know, however, the maximum rate at which ilmenite could be supplied to Commercial Pigments from this source as Travancore Minerals is under certain obligations to supply the European plants that operate under the Blumenfeld process and of superior importance is the fact that continuous recovery of ilmenite from the beach sand is dependent upon the supply of this sand being continuously, or almost continuously, replenished by wave action. Mr. Priestly insists that this occurs at a rate sufficient to assure, without question, the production of at least 100,000 tons of ilmenite concentrates annually in a plant of adequate capacity.

During a visit here on September 29th, Mr. Ticknor stated that Travancore Minerals now sells ilmenite to Commercial Pigments at 25 shillings per ton F.A.S. ship in India, the price having been reduced from 30 shillings about a year previously. The cost of loading in India plus ocean freight and other expenses to Baltimore was stated to be about 23 shillings per ton, making the delivered cost in Baltimore 48 shillings or about $12 per ton. Mr. Ticknor stated further that as there is a growing demand for zircon, Travancore Minerals can sell all of this mineral that it produces, the present price being about $45 per ton, and can also sell its production of monazite at a profit although this market is not so promising as that for zircon. He claims that the combined sales of zircon and monazite pay all the expenses of Travancore Minerals so that the return from sales of ilmenite represents clear profit.

Commercial Pigments investment in Travancore Minerals consists of $75,000 in 6% debenture stock and of

junior stock (representing a 50% interest in earnings and a 40% interest in vote) carried at cost of $3896.

We understand that under the laws of India, only an Indian company can engage in the development of natural resources and that it is unlawful for such a company to be controlled through stock ownership by a foreign corporation or individual. India grants a license to companies operating to develop natural resources and if a company holding such a license is found to be controlled by foreign capital the license may be revoked.

Pending a clearer understanding of the situation which we will later have relative to the above and some other features, we are not sufficiently informed regarding the financial set-up of the Travancore Minerals Company, Limited, to estimate their earnings with any reasonable degree of satisfaction.

Commercial Pigments titanium dioxide plant at Curtis Bay is located on a water front tract of about 3½ acres that was purchased from the U. S. Industrial Alcohol Company. The buildings on the property at time of purchase were of hollow-tile and frame construction and have been utilized after converting by changes and additions to better meet the new requirements. The plant was designed by and constructed under the supervision of the Bedford Construction Co.—the engineering and construction division of the Corn Products Refining Co.—on the basis of information and assistance obtained at the European plants operating the Blumenfeld process, by a delegation headed by Mr. Chase, Vice President of Commercial Pigments, who is a consulting chemical engineer and was placed in charge of starting and operating the plant at Curtis Bay.

The plant was supposed to be capable of producing 10 tons of titanium dioxide per day but the original installation developed an actual capacity of only about 3 or 4 tons per day. Various changes were made, including considerable replacement of equipment with that of more suitable design and some changes in the process were also introduced, with the result that capacity was gradually stepped up to about 7 tons per day and it was stated by Mr. Ticknor at the end of September that they were then producing 10 tons daily; also that completion of the $500,000 plant expansion project previously announced would enable them to produce 22 tons of TiO_2 daily by the end of the year, at a cost which he intimated might make that of extended pigment as low as 4¢ per pound, stating very definitely that the TiO_2 could be sold at 12¢ per pound and yield satisfactory profit. Under our contract that expires December 1st, this year, we are paying Commercial Pigments for ground TiO_2 17¢, for unground 16¼¢, carload quantities delivered at our eastern plants.

Mr. Ticknor also said that by the end of 1930 Commercial Pigments would have put $2,250,000 cash into the business and when the new plant is operating they will be glad to show us what they have.

The plant has been visited by several du Pont men during the last three years and we therefore have on file considerable detailed information regarding equipment, operation, etc. One general impression resulting from these inspections has been that the plant was rather extravagantly equipped and could be duplicated for considerably less money or at least a duplication of the expense should provide a plant better and more suitably equipped.

Exhibit 177

The Blumenfeld process, under which Commercial Pigments operates, is based on the treatment of ilmenite with sulphuric acid, these being the only essential materials required. With several manufacturers of sulphuric acid located at Curtis Bay, an adequate supply of this raw material at relatively low cost is assured.

Upon decomposition of the ilmenite by the acid, the titanium and iron sulphates are leached out and the solution is purified by refrigerating to crystallize out the ferrous sulphate which is then removed by centrifuging. The resulting purified titanium sulphate solution is evaporated under vacuum and then diluted which precipitates TiO_2. This is filtered out, washed, dried, calcined and ground, this final product being TiO_2 of about 97% purity.

Commercial Pigments originally purchased the exclusive American rights to the Blumenfeld process, including nine patents covering the various manufacturing operations, and at that time a contract was entered into with Mr. Blumenfeld giving Commercial Pigments the sole American rights to any new developments or improvements in the process that might be worked out by him or his associates. Subsequently, applications were filed for sixteen additional patents of which some have been granted and still additional applications have been filed.

Most of the various steps of the process operated by Commercial Pigments are thus covered by patents which they own or under which they are licensed but the validity of these patents or the extent to which they are subordinate to other more basic patents still remains to be determined.

To round out their patent situation, Commercial Pigments also purchased from the Glidden Company several U. S. patents and patent applications covering the mixture

of TiO_2 and lithopone for the manufacture of titanium lithopone combination pigments, this resulting in Glidden becoming interested in the company. These are known as the O'Brien patents and are considered by our Patent Division to be of questionable value. Commercial Pigments has licensed Krebs, Grasselli, Glidden and United Color and Pigment Co. under these patents and applications until expiration of the last issued patent (the earliest patent expires September 21, 1943) but the license agreement may be terminated by either party any time after 1931.

It is to the above licensees that Commercial Pigments sells most of its TiO_2, which is furnished in the pure form (about 97% purity) to be blended with lithopone by these buyers.

Commercial Pigments also has an outlet for some TiO_2 to small paint and varnish companies that use it as an ingredient in their products. This business is handled through the R. T. Vanderbilt Co., their exclusive agent for the sale of TiO_2 directly to the paint industry.

Commercial Pigments is therefore concerned at present in the manufacture and sale of only pure TiO_2 as they make neither titanium lithopone pigments, which would bring them into competition with their licensees under the O'Brien patents, nor do they produce extended titanium pigments, which would bring them more directly in competition with the Titanium Pigments Company, subsidiary of National Lead and their only U. S. competitor in the manufacture of TiO_2.

The officers of National Lead have indicated considerable feeling against Commercial Pigments on account of alleged infringement of some of their patents covering steps in the manufacture of TiO_2 but this situation is apparently

being met by more aggressive sales competition on the part of Titanium Pigments, rather than through patent infringement suits.

While, like Commercial Pigments, Titanium Pigments also sells a limited quantity of TiO_2 to paint and varnish manufacturers who mix in a small way, their volume business is in the form of extended TiO_2 pigments, to which they have given the trade name "Titanox", produced by making a combination between barium sulphate or calcium sulphate and titanium dioxide as a part of the process by precipitating the TiO_2 on one of these materials. These compositions contain from 25% to 30% TiO_2.

Titanox is sold to the paint, varnish, linoleum and other trades that use white pigments and its manufacture is at present protected by patents owned by National Lead or Titanium Pigments covering the use of non-pigment extenders for TiO_2 such as those mentioned above.

Commercial Pigments is endeavoring to develop a process for making extended TiO_2 pigments that will not infringe the National Lead patents on Titanox and other extended titanium pigments. The basic Titanox patents will expire, however, in 1932 and 1934 so even if Commercial Pigments does not succeed in developing a non-infringing process they will, within a relatively short time, be in position to compete in the extended TiO_2 pigment field, which offers the best opportunity for development and expansion of demand for titanium dioxide.

With the interest of lithopone and other white pigments manufacturers already affected by the severe trade rivalry existing between the two U. S. producers of titanium dioxide and certainty of still keener competition with lithopone on the part of these companies resulting from the

lower costs for their products that will obtain after the TiO_2 industry is established on a larger volume basis by plant increases recently completed and now under way, the du Pont Company will be obliged to engage in the TiO_2 business to meet the growing demand for TiO_2 pigments and protect its position in the pigment industry.

Studies are now being made of all phases of the titanium pigments situation by the Chemical and Development departments, specially regarding patents, processes and ilmenite supply. The results of these investigations will determine how we are to proceed to expand our field of activity in titanium pigments beyond present production of titanium lithopone combinations under the O'Brien patents.

The Titanium Pigments Company appears to have the stronger patent position from a TiO_2 manufacturing standpoint and for the next few years they will probably dominate the important field of extended titanium pigment manufacture. We believe that Commercial Pigments is infringing some important manufacturing patents owned by Titanium Pigments that still have considerable time to run. Commercial Pigments has also had relatively short manufacturing experience with small tonnage production and sales principally to lithopone manufacturers, added to which is the probability that, in view of the price paid for Commercial Pigments by Commercial Solvents, they would want almost prohibitive terms.

Should, however, some basis for purchase or consolidation be worked out with Commercial Pigments that was attractive from an economic standpoint, it would be necessary to have very definite assurance of a sound patent position and to investigate further the situation regarding their

interest in Travancore Minerals Company before reaching a final conclusion as to our interest in their plant and process.

On the other hand, if the research work now being conducted by the du Pont Company results in the development of a TiO_2 process than can be operated in our lithopone plants without infringing existing valid patents, purchase of or consolidation with Commercial Pigments or Titanium Pigments might not be desired but some working arrangement that would supplement our knowledge with the know-how and experience of one or both of these concerns might be preferred.

Research work to date indicates that, in developing a process for the manufacture of TiO_2, we have avoided all valid patents excepting two. One of these, belonging to National Lead, has been held by our Patent Division to be probably invalid and is now being reviewed in the light of more recent developments. Apparently Commercial Pigments also considers this patent to be invalid as we believe they have been infringing it for some time. The other patent is owned by Commercial Pigments. It is probably valid but is very specific and there is a fair possibility that an avoidance may be accomplished by some variation in procedure.

For further details regarding processes, patents and other essentials of the TiO_2 situation, reference is made to D. W. Jayne's report of February 17, 1930, Serial D-790, Titanium Oxide and Titanium Pigments, and the results of current studies of various features of the industry.

W. W. RICHARDS

Exhibit 177

EXHIBIT "P"

POTENTIAL EARNING POWER OF GRASSELLI PIGMENT BUSINESS

	Actual		Forecast	Potential#	
	1929	1930	1931	1932	1933
Net Sales:					
Titanated Lithopone	$ 304,957	$ 407,580	$ 374,900	$ 476,000	$ 488,000
Lithopone	7,109,549	5,233,812	4,693,700	5,900,000	6,140,000
Dry Colors	2,009,900	1,630,738	1,772,800	2,200,000	2,460,000
Titanium Dioxide	—	—	—	—	775,000
Total Sales	9,424,406	7,272,130	6,841,400	8,601,000	9,863,000
Mill Cost	7,294,312	5,776,943	5,425,900	6,512,000	7,306,000
Selling & Admin. Expense	688,738	711,693	636,000	636,000	636,000
Net Receipts	1,441,356	783,484	779,500	1,453,000	1,921,000
Interest on Cash	11,100	11,100	11,100	11,100	11,100
5% Commission on Sale of Alumina Hydrate & Zinc Oxide	44,450	26,028	31,600	31,600	31,600
Total Income	1,496,906	820,612*	822,200	1,495,700	1,963,700
Federal Tax 12%	176,600	98,500	98,700	179,500	236,000
Net Income	$1,317,306	$ 722,112	$ 723,500	$1,316,200	$1,727,700

*Before inventory write-down of $97,652.

#Last two columns show two successive hypothetical years which are labeled "1932" and "1933" for convenience only. "1932" is based on 1929 volume and "1933" is based on increases over 1932 of 4% in lithopone volume and 10% in dry color volume. Both "1932" and "1933" are based on 1931 prices and 1931 unit costs. Also "1933" assumes that Grasselli will independently begin the manufacture of TiO_2 and will accomplish in the first year substantially what Commercial Pigments expects to accomplish in 1931.

Columns labeled "1932" and "1933" give some indication of the potential earning power of the Grasselli pigment business but they are *not* submitted as a forecast for those calendar years.

Exhibit 177

EXHIBIT "Q"

POTENTIAL EARNING POWER OF COMMERCIAL PIGMENTS CORPORATION

	Actual	Forecast	Potential#	
	1930	1931	1932	1933
Net Sales				
Tons	1,800	3,130	5,050	5,760*
Dollars	$600,000	$1,052,000	$1,722,000	$2,003,000
Mill Cost	—	729,600	933,000	1,000,000
Sell. & Admin. Expense.	—	110,800	172,400	223,000
Net Receipts	—	211,600	616,600	780,000
Interest on Cash	—	1,500	1,500	1,500
Equity in Earnings of Travancore Minerals Co.	—	25,600	25,600	25,600
Total Income	—	238,700	643,700	807,100
Federal Tax 12%	—	28,700	77,200	96,900
Net Income	$ 52,000	$ 210,000	$ 566,500	$ 710,200

*This compares with plant capacity of 7,500 tons.

#Last two columns show two successive hypothetical years which are labeled "1932" and "1933" for convenience only. "1932" and "1933" reflect a substantial growth which might be expected with a return of the white pigments industry to 1929 levels. Both "1932" and "1933" are based on 1931 prices and 1931 unit costs. Also "1933" assumes that Commercial Pigments will lose du Pont business because of Grasselli entrance independently into the manufacture of TiO_2.

Columns labeled "1932" and "1933" give some indication of the potential earning power of the Commercial Pigments Corp., but they are *not* submitted as a forecast for those calendar years.

Exhibit 177

EXHIBIT "R"

Comparison of Potential Earning Power

Based on 1931 Prices and 1931 Unit Costs

		Grasselli Pigment Business		Commercial Pigments Corporation	Total
		Lithopone & Dry Colors	Titanium		
Net Income	(1931*	$ 723,500	—	$210,000	$ 933,500
	(1932#	1,316,200	—	566,500	1,882,700
	(1933#	1,517,700	$210,000	710,200	2,437,900
Percent of Total	(1931*	77.5%	—	22.5%	100.0
	(1932#	69.9	—	30.1	100.0
	(1933#	62.3	8.6	29.1	100.0

* Figures labeled 1931 are based on 1931 forecast.

#Figures labeled 1932 and 1933 are for two successive hypothetical years which are labeled "1932" and "1933" solely for convenience. These figures give some indication of comparative potential earning power, but they are *not* intended as a forecast for those calendar years.

It should be noted that this 70-30 division of potential earning power is based on present prices. Exhibit I shows that Grasselli, operating at 96% of capacity, forecasts earnings of 11% on sales; whereas Commercial Pigments, operating at only 42% of capacity, forecasts earnings of 20% on sales. Consequently a general cut in pigment prices would hurt Grasselli considerably more than it would Commercial Pigments, and would have the effect of reducing Grasselli's 70% and increasing Commercial Pigments 30%.

Exhibit 178

COPY

ARTHUR YOUNG, BROADS, PATERSON & CO.

1 Walbrook, London,

E. C. 4

17th February, 1931

Messrs. Arthur Young & Co.,
1 Cedar Street,
New York,
U. S. A.

Dear Sirs:—

As requested in your cable of the 11th inst., we attended at the offices of Commercial Solvents Corporation for the purpose of examining the Securities belonging to the Commercial Pigments Corporation and have cabled you as hereunder:—

12th February 1931

"Arthyoung, New York. Examined Twenty Thousand Pounds par value Prior Lien Debentures and Seventeen Thousand Four Hundred and Ninety "A" Shares of Shilling each and Four Thousand Five Hundred Ordinary Shares of Shilling each all Travancore Minerals Company. Rosebelle."

13th Febr. ary 1931

"Arthyoung, New York. Travancore Securities in names of Nominees stop Articles provide Foreign Corporation cannot be registered Burton consulting Lawyers Pigments Validity of Title stop No Declaration of Trust Inspected. Rosebelle."

Exhibit 178

The Securities were inspected by us at the Kingsway (London) Office of the Guaranty Trust Company of New York, and details are as follows:—

(1) *Travancore Minerals Co., Ltd. Prior Lien Debentures*

Debentures Nos. 1-150 representing one hundred and fifty £100 Debentures of a total par value of £15,000 registered in the joint names of William A. Burton and Major Denis J. Burke.

These bonds are the property of Commercial Pigments Corp.

Debentures Nos. 151-200 representing fifty £100 Debentures of a total par value of £5,000 registered in the name of Societe de Produits Chimiques des Terres Rares.

(2) *Travancore Minerals Co. Ltd. "A" Shares of 1/- each fully paid*

Certificate No. 1	representing	11,660 shares	Nos. 1-11660
" No. 2	"	5,830 "	Nos. 11661-17490
Total —		17,490	

Registered in joint names of William A. Burton and Denis J. Burke.

(3) *Travancore Minerals Co. Ltd. Ordinary Shares of 1/- each fully paid*

Certificate No. 41 representing 4,500 shares Nos. 54501 to 59000 registered in joint names of William A. Burton and Major Denis J. Burke.

It will be observed that the foregoing Securities are registered in the names of Nominees and it is usual in such cases for the nominees to execute Blank Transfers and Declarations of Trust in favor of the Benefi-

cial Owners. Upon enquiry we are informed that such Transfers and Declarations have not been executed, and after perusing the Articles of Association of Travancore Minerals Company Limited we find that there are restrictions regarding the transfer of Shares. We have drawn the attention of Mr. W. A. Burton to the matter, and he has decided to consult the Company's Lawyers thereon with a view to having the Articles amended if necessary.

For your information we append a copy of the Clauses dealing with the "Transfer of Shares".

Yours faithfully,

ARTHUR YOUNG, BROADS, PATERSON & CO.

Exhibit 179

COPY TO T. S. GRASELLI
WM. RICHTER
E. K. BOLTON
J. B. ELIASON
C. H. RUPPRECHT
H. C. HASKELL

To: EXECUTIVE COMMITTEE SERIAL NO: S-2402

FROM: DEVELOPMENT DEPARTMENT February 18, 1931

COMMERCIAL PIGMENTS CORPORATION

Herewith report is submitted to your Committee of proposed consolidation of the lithopone and dry color business of the Grasselli Chemical Company with the Commercial Pigments Corporation now engaged solely in the manufacture of titanium pigments and owned by the Commercial Solvents Corporation. This report has been submitted also to the Grasselli Chemical Company but unfortunately it has been found advisable to submit the proposition direct to your Committee without first obtaining the action by the Board of Directors of the Grasselli Chemical Company. However, we have already discussed the subject orally with Messrs. T. S. Grasselli, E. W. Furst and E. C. Thompson and ascertained their considerable interest in the proposition submitted.

The reason for placing this report before your Committee at this time is that Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, is going abroad on February 27th and is not expected to return until about the first of April and it is most desirable that we be able to

advise Mr. Ticknor, before his departure, whether du Pont Company is agreeable to the consolidation proposed in this report subject to certain reservations and verifications which can be taken care of on Mr. Ticknor's return to this country. We are desirous of obtaining such answer as early as practicable on account of the very large research expenditures which can be saved to a very great extent in case of consolidation and the fact that the longer the consolidation is deferred, the greater Mr. Ticknor's expectation of participation in the new company to be organized to undertake the consolidated business. If it should be found inadvisable to take any action on or before the 27th of February, it will be necessary to defer consideration of the subject until April and presumably the negotiations would have to be started all over again on the basis of the situation then existing.

It is the clearly expressed opinion by all interested divisions of the Company that titanium pigments are of increasing importance whereas lithopone has apparently reached its maximum and a decline in lithopone business is indicated, with a tendency toward reduction in profits. The proposed consolidation is predicated on such advice and which has caused the large expenditures for the development of a titanium pigment process.

During the past years the subject has been discussed several times with both officers of the National Lead Company, owning the Titanium Pigments Corporation, and the Commercial Solvents Corporation, but only the latter has been inclined to consider a closer affiliation; particularly since the du Pont Company commenced its own development work in this connection, Mr. Ticknor has shown further inclination to such affiliation until finally a proposition is submitted in the appended report.

Exhibit 179

No examination has been made of the Commercial Pigments Corporation's plant and property, operating processes and their accounts nor has the patent situation been discussed except in a general way. However, it is definitely understood that in the event du Pont Company signifies its desire to go into the proposed consolidation, all information supplied will be subject to investigation and verification such as examination of books, plant inspection and disclosure of patent situation, with the right to withdraw from the proposition if, in our opinion, claims made by the Commercial Pigments Corporation are not verified.

It should be understood that last year the Commercial Pigments Corporation operated a small plant not producing more than a maximum of 10 tons per day of titanium oxide but they are now putting the finishing touches to an enlargement of the plant which will enable them to make over 20 tons per day and their business is definitely increasing rapidly, whereas the lithopone business does not show any such indication. It is therefore clear that any possible consolidation in the future on the basis of either comparative assets or comparative earnings will show an increasingly larger percentage participation for Commercial Pigments as compared to du Pont. Therefore, if consolidation is to be effected, it ought to be done as soon as practicable.

It must also be kept in mind that the Chemical Department is now spending approximately $11,100 per month in process experiments which probably could be largely, if not entirely, saved in the case of consolidation. Further, the Chemical Department has arrived at the point in their study where they should by all means construct and operate a pilot plant at a cost of $50,000 or more and which would involve a monthly expenditure of several thousand dollars if consolidation is not effected. This important development

is held in abeyance pending these negotiations and considerably to the detriment of the development of a du Pont process. Either these plans should be abandoned or put in execution promptly in accordance with decision relative to consolidation.

It should further be mentioned that there is a monthly expenditure of about $4,000 for the development of commercial titanium pigments so that the total monthly expenditure is then $15,000 to $16,000. If the pilot plant is constructed and operated, the total monthly expenditure would probably be at least $20,000 and would continue for the balance of the year, as well as most likely a considerable portion thereof during next year. The forecast is that if no consolidation is effected, we would be faced with very large research and development expenses followed by a large capital expenditure for the construction of a plant. When such commercial plant might be finished in 1933, it would mean a capital expenditure of probably two and a half million dollars in research development, pilot plant, commercial plant, ore deposit, etc. By that time, both the Commercial Pigments Corporation and the National Lead Company would be firmly in the saddle with established business so that the entrance of the du Pont Company in the field with a large plant could only mean lower prices and our plant operated at only part capacity for some time. It is my conviction that if we do not obtain control of the Commercial Pigments Corporation, the only logical conclusion would be to discontinue our research and development expenses and be satisfied to purchase titanium oxide for use in our business because the large capital expenditure could not be expected to show satisfactory earnings.

As a result of a careful study of the whole situation for a considerbale length of time, I have arrived at the

conclusion that if we desire to go into the titanium pigment business, the best way to do so is to acquire the going business of the Commercial Pigments Corporation and that the terms of acquisition are better now than they will be at any later time this year or next year. However, if the proposed consolidation is not viewed with favor, it is then recommended that the present expenditure of about $15,000 to $16,000 per month on titanium pigments should be discontinued, as well as other plans to spend money on this subject.

The Commercial Pigments Corporation cannot be bought outright except at a price which could not be recommended by this Department or which would be accepted by your Committee. A divided interest is of course undesirable but the best which can be proposed under the circumstances. There are several features such as, for instance, the patent situation which are not clear but everything of this nature will be checked before a definite plan for consolidation is submitted to your Committee for final approval. The patent situation would seem to be one of the most questionable features but certainly if the combined patents and information of Commercial Pigments and du Pont would leave the proposed new company too exposed to attack, then it is obvious that the du Pont Company alone could not hope to carry out this work so that the inescapable conclusion would be that our development work would have to be discontinued. It is my expectation that the new company would be sufficiently protected in this regard to be able to go ahead safely particularly inasmuch as we are here dealing with an acquisition of assets and not of capital stock so that there should be no liability for previous acts.

The following recommendation is submitted for your Committee's consideration:

Exhibit 179

WHEREAS, a consolidation of the assets and business of the Grasselli Chemical Company's lithopone and dry color business and the Commercial Pigments Corporation is indicated to be desirable, in accordance with Development Department's report S-2402, dated Feb. 18, 1931, and forecast of net worth of Grasselli and Commercial Pigments' businesses indicates, on or about April 1st, a ratio of approximately 70-30, and forecasted earning power, a ratio of 77½ to 22½ for 1931, but thereafter approximately 70 to 30;

RESOLVED, that it is the sense of this Committee that consolidation on such basis is justified, for which reason the Development Department is authorized to so advise the Commercial Pigments Corporation and proceed with conclusion of negotiations on this basis, with the understanding that they will endeavor to obtain the following stipulations in the consolidation agreement to be submitted at a later date to this Committee for further consideration and approval—

1. The present idle Philadelphia lithopone plant will not be included among the assets of the new company to be organized but it is to be agreed by the owners of Commercial Pigments Corporation that the majority of the Board of Directors of the new company will have the right, without question, at any time they so desire, to order purchase from du Pont

Company, for cash, of the Philadelphia lithopone plant at its book value.

2. While the consolidation will be on the basis of 30% of the capital stock of the new company for the present owners of the Commercial Pigments Corporation, it is understood that if the net worth of that company, on the date of consolidation, does not equal 30% of the total net worth of the new company, they will add sufficient cash to bring the value up to this percentage.

3. The owners of the Commercial Pigments Corp. should further agree that du Pont should have the right to acquire the 30% minority interest in the new company at its option any time after five years from the date of consolidation on the payment of a sum in cash equal to 30% of the average net earnings of the new company during the preceding three years, multiplied by a factor not more than 15, it being understood that the Development Department will attempt to have this factor not greater than 12.

RESOLVED, That this Committee does not approve any plan for the Commercial Solvents Corporation or any other interest to acquire a greater interest than 30% in such new company for cash or otherwise, and it being further understood that the Development Department, if

Exhibit 179

this plan is acceptable to the Commercial Pigments Corporation, will proceed with a further study for the inspection of plant and processes, verification of books, figures, examination of patent situation, and in the event of reasonable verification, proceed with the preparation of a definite plan and agreement to be submitted to this Committee for approval.

Respectfully submitted,

Fin Sparre
Director

Exhibit 180

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

February 19, 1931.

Mr. Lammot du Pont,
Building.

Dear Mots:

I find that I will not see you before I leave. A month or so ago I thought that your plans brought you back here about this time or this week-end and so Mary and I arranged with the Russells to sail Saturday for Havana where Irenee is expecting to meet us. As a change in our plans would now upset both the Russells and Irenee and as there seems to be no particular reason for me to see you before leaving, we are planning to go through with our arrangements. I understand too that all of the members of the executive Committee now in town are planning to be here next week.

Yesterday we had before the Executive Committee the tabulation of our Administrative Expense for last year and it seems to me quite a disappointment that we did not make more headway in the reduction of this expense. I suggested that I thought it would be wise to have a committee of two members of the Executive Committee appointed who would make a serious study of all of the items entering in the Administrative Expense and endeavor by the use of proper means to bring down this expense. As this is matter in which I know you are very much interested I did not feel like urging any definite action on this during your absence though I think; except for this, that I would have appointed a committee, composed of Ruly and Angus, to go into this

in a real aggressive way, carefully examining all items of every description entering this expense with a view of reducing it. Next year we will, of course, have the added portion of the rent of the new building to compensate for.

I gathered from what you said before you left that you thought we should consider very actively the question of the reduction of salaries and wages and this may come up for some action during my absence.

The decline in the commodity price level and to a lesser extent the decline in the cost of living together with the lower profits, do seem to urge every possible means to bring about lower cost of production and it is very difficult to conclude that this is not the step to take. However, there do seem to be some reasons to feel that business will pick up gradually from now on and if I were positive in my feeling that this improvement will continue I would be more firm in my conviction that any attempt to reduce salaries and wages at this time would be a mistake.

I think that a step on our part in this direction might precipitate action on the part of a number of others though I feel that it would probably be some time, perhaps many months, before the country generally would reach a lower salary and wage level. This lingering process would be a severe shock to business. It would increase the feeling of insecurity of a great many as to their income and for this reason might even further reduce buying. Also, people contemplating expenditures would defer their purchases in anticipation of lower prices.

I have given a good deal of thought to the beneficial effects which might result from a continuation of the high salary and wage level in the face of the lower commodity price level and while the problem is so complicated that I

Exhibit 180

do not feel I have a firm grasp of the essentials entering into it, I am inclined to the belief that this combination of high salaries and wages with lower commodity price levels would bring about a very sound stimulation to business beneficial to the national economy. In any event, it would seem to me to be worth trying, recognizing that if it develops to have been a mistake it can perhaps be remedied at some time later, because if this is a mistake business and employment will not pick up which will make the reduction possible and if the reduction then is not possible it will be only because business and employment have picked up, in which case we will have no regrets.

I have discussed with Sparre the two questions which may come up during my absence, at least in a preliminary way, one, that of titanium and the other Remington. If, as I understand to be the case, the titanium pigments are going to occupy an important position in the pigment field, it seems to me that the proposed set-up with Commercial Solvents is a good one. It is my understanding that they have the source of raw materials and processes for producing the product and they also have a strong patent position. Under the circumstances, if I were here, I would favor this deal.

* * * * *

Yours sincerely,

W. S. CARPENTER

WSC:W

Exhibit 181

February 19, 1931.

To: T. S. Grasselli, President
Grasselli Chemical Company

From: Development Department
Du Pont Company

Commercial Pigments Corporation

Herewith I am forwarding several copies of this Department's report on a proposed consolidation of the lithopone and dry color business of the Grasselli Chemical Company and the titanium pigments business of the Commercial Pigments Corporation which subject we discussed with you orally when you visited Wilmington on the 16th instant. I wish we could have taken more time to discuss this important subject but Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, which is the sole owner of the Commercial Pigments Corporation, is going abroad on February 27th and it is most desirable that we be able to advise Mr. Ticknor, before he leaves, whether the du Pont Company is agreeable to a proposition such as outlined in this report. For the same reason, I have found it necessary to submit this report direct to the Executive Committee of the du Pont Company for their consideration whereas if conditions had permitted, I would first have given the Board of Directors of your company full opportunity to consider the proposition before having it submitted to the Executive Committee.

With this explanation, I hope you will present the proposition before your Board of Directors.

Respectfully submitted,

Fin Sparre
Director

Exhibit 182

Copy to—Mr. T. S. Grasselli,
Mr. J. B. Eliason,
Mr. W. Richter.

April 18, 1931.
SERIAL No. 8-2408

TO: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

COMMERCIAL PIGMENTS CORPORATION

There have been no developments in connection with the titanium pigments situation since your Committee's resolution of March 4, 1931, until I had an interview yesterday with Mr. Ticknor, President of the above corporation. Mr. Ticknor was abroad during March and only returned to his office a few days ago.

I explained to Mr. Ticknor that our proposition, as tentatively agreed upon in our previous negotiations, had been approved by your Committee with the exception of three points which had to be further discussed.

The first point was in regard to the present idle Philadelphia lithopone plant and our interpretation of this was in accord with Mr. Ticknor's understanding.

The second point which had not been entirely settled in the previous negotiations with Mr. Ticknor was that duPont made a definite proposition that the stock ownership of the proposed new company would be 70% du Pont and 30% for the owners of the Commercial Pigments Corporation. After some little discussion this was accepted by Mr. Ticknor. Inasmuch as the assets involved in this trans-

action are constantly changing due to fluctuations in business it was agreed that there would be an adjustment in cash to bring the contributions of assets of both parties up to the 70-30 division. It has beretofore been assumed that the Commercial Pigments Corporation would have to contribute a fairly substantial amount of cash for this proposition but Mr. Ticknor showed me a chart of sales showing that their sales recently have increased very substantially so that it is possible that it would not require much cash to equalize their 30% participation. While it is still expected that they would have to supply some cash it was thought only fair to agree with Mr. Ticknor that cash would be supplied by either party as required for this purpose. It is of course understood that everything in this connection is subject to plant inspection, examination of accounts, conferences on patents, etc.

The third point for discussion was in connection with the stipulation that du Pont should have the opportunity at some time in the future to acquire the Commercial Pigments Corporation's 30% interest in the new company on some predetermined basis. This subject had been discussed before but this was the first time that a definite suggestion was submitted. Mr. Ticknor stated he had, during our previous negotiations, given careful thought to the matter and he had also at the time discussed it with the principal stockholders and the directors but they had not seen any way then to accept our suggestion and the latest suggestion did not look any better to him than anything which had heretofore been considered. He stated that they did not want to sell out and did not think that five years was long enough time to determine the value of this industrial development, that if the solvent business turned out to be unsatisfactory in the future they might have to rely upon the

pigments business as one of their chief sources of income. Mr. Ticknor's position is that if the time comes in the future that du Pont would want to buy them out and we can show reasons for this there must always be a way to accomplish this but in any event he could not see his way clear now to accept the proposition. After some further discussion I asked Mr. Ticknor to think it over and again talk it over with his associates so that we could discuss it finally at the first opportunity. Mr. Ticknor stated that he would do this, that he had other urgent business to attend to at this time, had to go west for a business trip, and that he would be in Wilmington for several days around the 10th of May in connection with the law suit which they have started against an infringer of their solvents patents. Inasmuch as he would have to be in Wilmington for a considerable length of time and would have very little time to spare in the meantime, he suggested that we defer the discussion until then, which offer I accepted.

It was understood between Mr. Ticknor and myself that we had for all practical purposes agreed on a deal provided we could get together on this one remaining issue, Mr. Ticknor expressed himself as very much pleased with the progress of the negotiations and I am confident that he wants to complete this deal though there is going to be a good deal of difficulty about the stipulation giving duPont the right to acquire their minority interest.

This subject will therefore have to be held in abeyance until around the 10th of May but it would appear that for all practical purposes an agreement has been reached.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 182

EXHIBIT "A"

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

COMMERCIAL PIGMENTS CORPORATION:

The following resolution was offered and unanimously adopted:—

WHEREAS, a consolidation of the assets and business of the Grasselli Chemical Company's lithopone and dry color business, including Krebs Pigment & Chemical Company, and the Commercial Pigments Corporation is indicated to be desirable, in accordance with Development Department's report S-2402, dated February 18, 1931 and February 21, 1931, and forecast of net worth of Grasselli and Commercial Pigment's businesses indicates, on or about April 1st, a ratio of approximately 70-30, and forecasted earning power, a ratio of 77½ to 22½ for 1931, 70 to 30 for 1932, and 62.3 to 37.7 for the year 1933;

RESOLVED, that it is the sense of this Committee that consolidation on such basis is justified, for which reason the Development Department is authorized to so advise the Commercial Pigments Corporation and proceed with conclusion of negotiations on this basis, with the understanding that they will endeavor to obtain the following stipulations in the consolidation agreement to be submitted at a later date to this Committee for further consideration and approval:—

1. The present idle Philadelphia lithopone plant will not be included among the assets of the new

company to be organized but it is to be agreed by the owners of Commercial Pigments Corporation that the majority of the Board of Directors of the new company will have the right, without question, at any time they so desire, to order purchase from duPont, for cash, of the Philadelphia lithopone plant at its book value or appraised depreciated value, if acceptable to duPont.

2. While the consolidation will be on the basis of 30% of the capital stock of the new company for the present owners of the Commercial Pigments Corporation, it is understood that if the net worth of that company, on the date of consolidation, does not equal 30% of the total net worth of the new company, they will add sufficient cash to bring the value up to this percentage.

3. The owners of the Commercial Pigments Corporation should further agree that duPont should have the right to acquire the 30% minority interest in the new company at its option any time after five years from the date of consolidation on the payment of a sum in cash equal to 30% of the average net earnings of the new company during the preceding three years, multiplied by a factor not more than 15, it being understood that the Development Department will attempt to have this factor not greater than 12.

RESOLVED, that this Committee does not approve any plan for the Commercial Solvents Corporation or any other interest to acquire a greater interest than 30% in such new company for cash or otherwise, and it

being further understood that the Development Department, if this plan is acceptable to the Commercial Pigments Corporation, will proceed with a further study of the inspection of plant and processes, verification of books, figures, examination of patent situation, and in the event of reasonable verification, proceed with the preparation of a definite plan and agreement to be submitted to this Committee for approval.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the EXECUTIVE COMMITTEE OF E. I. DU PONT DE NEMOURS & COMPANY at a meeting held on March 4, 1931.

(S) M. D. FISHER
Assistant Secretary

E. I. duPont de Nemours & Company

Exhibit 183

April 22, 1931.

Dr. G. Jebsen
c/o Societe Industrielle de Titane
24 Rue de la Pepiniere
Paris, France

My dear Dr. Jebsen:

Your letter of April 10th and cablegram of the 21st instant are before me. I regret to report that Mr. McCarty's condition has not improved enough to justify our calling upon him for a solution of important matters that heretofore have had his attention. He is now in the care of Dr. Rowntree, reported to be the most capable doctor in the world for ailments similar to Mr. McCarty's. Mr. McCarty and the younger Dr. Gundersen (who has been constantly with him) are hopeful of every speedy and complete recovery under the personal care of Dr. Rowntree. However, it seems ill-advised to delay attention to the European affairs in which you are engaged. I am therefore cabling you to come over, with such others as you deem necessary, at your earliest conveniences. Probably Mr. McCarty will at that time be well enough to assist us.

It is one of the handicaps of having a man of Mr. McCarty's talents and character in a company. Everybody has so much faith in whatever he does or advises that no one deems it necessary to know the necessary details. However, I had an interesting interview with Mr. Chase yesterday and expect to have some more. I took up with him your letter of the 10th instant, with the details of which he seemed to be familiar.

I was seriously impressed with one fact, that perhaps I knew but to which I had never attached any importance

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A few weeks ago, the representatives of the Du Pont de Nemours Company and the New Jersey Zinc Company (the two largest manufacturers of lithopone in the United States) came to me and stated that they had made tests and ascertained that our titanox was worth two cents a pound more than lithopone, and that they had to keep at least a two cents a pound margin between the price of titanox and lithopone and, therefore, if we reduced the price of our titanox, they would have to reduce the price of lithopone. I did not take their statement seriously, although they appeared to be quite earnest. I did not think that they would reduce the price of the 200,000 tons of lithopone they were selling in order to prevent us from increasing our sales of titanox, which were relatively insignificant. But when we reduced the price of titanox $16. a ton, the very next morning the price of lithopone was reduced $16. a ton; thereby preserving the same differential between the price of lithopone and titanox.

This made a great impression upon me because, when the great producers of lithopone were willing to take a loss at the rate of two million dollars a year to prevent our titanox being more widely used, it was an authoritative indication that the greatest experts in the world on lithopone appreciated the menace of titanox.

In my conversation with Mr. Chase yesterday, I found that our partner, the I. G. Company, is a large manufacturer of lithopone as well as of our product. That all of the profits from the sale of lithopone belong to them, whereas half of the profits from the sale of titanium pigments would belong to us. This recalled that fact that the advertising which the I. G. Company contemplated putting up in public places in Germany mentioned the poisonous nature of white lead and lead pigments, and seemed to go

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upon the theory that the great competitors of titanium pigments were lead pigments.

In canvassing the various people that are making a pure titanium oxide under the Blumenfeld patents, I find that Aussig is a great chemical industry engaged in the manufacture of lithopone and, in a small way, of TiO_2. That Montecatini and every other concern with whom we are dealing in connection with the Blumenfeld patents are manufacturers of lithopone. That even our proposed connection in England probably contemplates the manufacture of lithopone and zinc pigments of other kinds. So far as I could see from my interview with Mr. Chase, every proposed connection you have in mind is more interested in lithopone than they will be in our products. All of the profits they make on lithopone belong to them, but the profits made on titanium pigments must be shared with us.

May I call the proposed combination, for simplicity, a cartel? The whole purpose of the cartel is to obtain a monopoly of patents so that no one can manufacture it excepting the members of the cartel, and so can raise the prices by reason of such monopoly to a point that would give us much more profit on our present tonnage, but also prevent a growth in tonnage that would interfere with their greater profits in lithopone. If there were a fully developed demand for titanium pigments, that might be very desirable. But, in this connection, it is interesting to note that with our present low price for titanox, our sales of titanox are showing a substantial increase over the sales of last year; whereas the sales of every other pigment used in the manufacture of paints are showing declines of from 22% in the case of white lead, and from 20-40% in the sales of all other pigments. Our reduced cost is rendered possible by increasing tonnage.

Exhibit 183

The comparatively small sales of the pure TiO2 by the Commercial Pigments Company are not interfering with our earnings; for the reason that the growth in the use of titanium pigments in the manufacture of paints is so great, that the little loss (and possibly increasing loss in sales through the competition of the Commercial Pigments Company) is but a small fraction of the increasing growth in the use of such pigments by the trade. If decreasing prices result in increasing consumption of titanium pigments, we would gain much more than we could possibly lose from the competition of anyone who is manufacturing the pure TiO2. In fact, if there should become a competition between the composite titanium pigments and the manufacturers of the pure TiO2, every one of the last industries would be a promoter of increased consumption of the titanium pigments in the manufacture of paints, and in that way would assist us in increasing sales of our products.

I think it is already demonstrated that a large tonnage at a low price and small margin of profit is much more desirable than the same profits made by a combination with others, whose permanent interest is to decrease the consumption of titanium pigments insofar as they conflict with their interest in the sale of lithopone.

I note that you are preserving to us the control of the cartel. But, even so, a minority interest has a voice and should be considered. Inasmuch as our patent protection is shortlived at the best, it is not to our permanent interest to build up a permanent demand (even at a sacrifice of present profits) in order to create a situation where, with large tonnage and low costs, we can permanently eliminate competitors?

The three largest paint manufacturers in the United States are contemplating the manufacture of titanium pig-

Exhibit 183

ments for their own use and, to this end, negotiating with the Commercial Pigments Company and ourselves. If we can increase our tonnage to, say, 100,000 tons a year in the United States, at the expense of lithopone, we will be able to make prices (after the expiration of our patents) so low that no paint grinder would find it advantageous to himself become a manufacturer of our products.

I hope, Dr. Jebsen, that you will consider what I have written as a suggestion for your consideration, and not a fixed conclusion in my mind that is not easily subject to change when I have an interview with you and, I hope, with Mr. McCarty. It may be that your plans contemplate an aggressive sales campaign in all of the countries where you are forming alliances, which shall be understood and approved by our new associates, with perhaps independent sales force. This has not been suggested, but is probably something that you have in mind.

As stated above, I have only given two days' consideration to this matter—one to your very interesting letter; the other to the very interesting conversation with Mr. Chase. I shall look forward to meeting you at an early date and discussing not only what I have suggested in this letter, but all of the matters that you wish to discuss in order to bring me up to date.

With kindest regards to Mrs. Jebsen, I am

Sincerely yours,

(Signed) E. J. CORNISH.
President.

(Enclosure).

Exhibit 183

WESTERN UNION

PARIS
APRIL 21, 1931

COPY

MCCARTY
LEADCO NEWYORK

MET DONEGANI BLUMENFELD BURTON SATURDAY STOP DONEGANI CLAIMED YEARLY SALE 1800 TONS TiO2 REPRESENTING FACTORY CAPACITY AND EXPORT CONTINUED AFTER FIVE YEARS DECREASING AS ITALIAN CONSUMPTION DEVELOPS STOP I MAINTAINED BASIS OF MEMO LETTER APRIL 10 STOP DONEGANI SUGGESTED MEETING IN THREE WEEKS IN ITALY WITH KUEHNE STOP I TOLD BLUMENFELD THAT DONEGANIS CLAIMS MEAN WE BUY BLUMENFELDS GOODS TWICE STOP BURTON WILL TRY CONCILIATE BLUMENFELDS AND DONEGANIS INTEREST

JEBSEN

Exhibit 184

Copy to T. S. Grasselli
J. B. Eliason
Wm. Richter

To: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

SERIAL NO: S-2410
April 22, 1931

COMMERCIAL PIGMENTS CORPORATION

In view of communication just sent to your Committee on the above subject under date of April 18, it is necessary to also report to your Committee the results of a conversation which I had in New York yesterday with Mr. W. D. Ticknor, President of the Commercial Solvents Corporation. I called on Mr. Ticknor without an appointment merely in order to clear up a couple of minor points which had not been covered in the previous conversation but found Mr. Ticknor in a rather excitable frame of mind and he insisted on doing a great deal of talking about the solvent situation, as well as the titanium pigment situation.

Mr. Ticknor felt very bitter against the Union Carbide Company on account of their activities in connection with their synthetic butyl alcohol development, objecting vigorously to their sales methods and propaganda. Apparently it had come to Mr. Ticknor's attention that representatives of the Carbide Company, in soliciting business, had made statements about the Commercial Solvents Corporation to which he took violent objection and, in his opinion, they had used unfair methods in attempting to get business. In

Mr. Ticknor's excited state of mind, I did not attempt to find out details because it seemed inadvisable to dwell on this subject longer than necessary.

Mr. Ticknor made the statement that he would not sell his titanium pigment business to the Carbide Company at any price nor would he want to be in partnership with them, on account of their activities in the solvent field,—whereupon he went on to say that he would want assurance from the du Pont Company that we would not use the same tactics in the du Pont Ammonia Corporation's higher alcohol business because, in his opinion, it would be an impossible situation for him to be in partnership with the du Pont Company in the titanium business but be on unfriendly terms in another business. Unless we could be on friendly terms in the solvent business, it seemed impossible to him to become partners in the titanium business. I asked whether he meant that the titanium deal would be predicated on another deal in regard to solvents but this he disclaimed and stated that he would be satisfied with an informal understanding and an expression of opinion from representatives of the du Pont Company that we did not intend to deliberately go out and hurt the Commercial Solvents Corporation's position. More specifically, Mr. Ticknor further stated that he would want an expression from the du Pont Company that his company would have reasonable expectation to obtain the du Pont Company's butyl alcohol business to the extent not produced by du Pont provided they would meet competitive prices and other conditions. This would apparently not be in the nature of a commitment but only an oral understanding and expression of friendly attitude.

With respect to the Commercial Pigments Corporation, Mr. Ticknor stated that it was his wish to go on with this

as previously discussed but he had to assure himself of du Pont Company's friendly attitude on the solvent situation before his company could conclude a deal on pigments. He then went on to say that we had to understand that his Board of Directors had not as yet acted officially on the terms and conditions which we had discussed heretofore so that he wouldn't want us to feel that this was settled. Thereupon he further went on to say that we hadn't yet examined into the details of the business and it of course had to be understood that a further and detailed examination might change our views on the subject, meaning that he didn't consider discussions as to their participation being limited to 30% as being concluded, but he would want me to inspect their Baltimore plant and take this matter up for final discussion as soon as he could arrange a meeting for that purpose.

I asked Mr. Ticknor whether it was understood that if we became partners in this business, neither one could sell or hypothecate the stockholdings in the jointly owned company without first offering the stock to the partner and to this he readily agreed, but we did not discuss further the question of an option on the stock.

In Mr. Ticknor's rather excitable state of mind, I found it inadvisable to do much more than listen to what he had to say and in fact it appears that too much weight should not be given to his statements. Undoubtedly something or other had just happened which had ruffled his temper considerably. There is no doubt, however, that the solvent situation does enter into the pigment situation to a certain extent and he has always maintained that a reasonably friendly, though competitive, attitude in the solvent situation would be necessary in order to make it possible to

conclude the final arrangement. If that relationship can be taken care of, then I feel that the terms and conditions of the pigment proposition can be arranged.

Under the circumstances, it would seem to be the best plan to express orally to Mr. Ticknor the du Pont Company's attitude towards his company and with respect to the solvent situation in general, whereupon the final negotiations could be concluded with Mr. Ticknor in regard to the Commercial Pigments Corporation. It is believed that this can be done substantially as previously reported with the exception of the option to acquire stock which may have to be dropped.

This has been explained orally to your Committee and submitted for record only.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 185

COPY

ADVICE OF ACTION

June 11, 1931.

Dr. Fin Sparre, Director
Development Department

SUBJECT: PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF COMMERCIAL PIGMENTS CORPORATION:

Action Taken By Executive Committee

At Meeting June 10, 1931

Remarks

Dr. Fin Sparre, Director, Development Department, appeared before the Committee for the purpose of obtaining an expression of opinion from the members on several matters pertaining to the formation and handling of the new company to be formed to take over the pigments business of The Grasselli Chemical Company (including Krebs) and the Commercial Pigments Corporation, an informal agreement having been reached with Mr. Ticknor, President of Commercial Solvents Corporation, as to the general basis for consolidation. Vice-President R. R. M. Carpenter also joined the meeting during the consideration of this matter.

After a general discussion as to the name of the new company, personnel, management, etc., it was moved and

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unanimously carried that the Development Department be advised it is the sense of this Committee that it is desirable that our portion of the stock of the new company should be owned by The Grasselli Chemical Company, and that the Development Department be instructed to continue negotiations with that in mind.

(S) M. D. FISHER
Sec'y Executive Committee

Exhibit 186

Copies to:—J. T. Brown, Vice Pres.,
J. E. Crane, Vice Pres.,
H. G. Haskell, Vice Pres.,
F. W. Pickard, Vice Pres.

June 16, 1931.

CONFIDENTIAL

DR. FIN SPARRE, DIRECTOR,
DEVELOPMENT DEPARTMENT.

OBLIGATIONS TO CANADIAN INDUSTRIES LIMITED—
COMMERCIAL PIGMENTS COMPANY CONTRACT.

With respect to our conversation on the above subject, I attach herewith extracts from Minutes of Meeting between the Presidents of DuPont and I. C. I., dated October 12, 1928, March 2, 1929, also Annex "A" of October 1928 Minutes, "Memorandum to be sent to Department Heads of I. C. I., DuPont and C. I. L." The status of the matter concerning our Pigments and Dry Color business in Canada appears to me to be—

1. According to minutes attached, we are obligated to grant free rights to our own processes for Canada to C. I. L. when and if that Company requests them.

2. However, we are not precluded from making arrangements with outside parties, which, incidentally involve Canada, if to omit Canada would be detrimental to our own major interests. The President and other officers of the DuPont Company have always had very definitely in mind that there may

be cases where our best interests would not be served by turning over our business in a particular industry to C. I. L., and that our only obligation is to discuss the matter with C. I. L. before making arrangements with the third party. This is very clearly reflected in Mr. Lammot duPont's letters to Heads of Departments and Subsidiaries, dated December 3rd and December 10th, copies of which are also attached.

3. As per Minute of October, 1928, we are obligated to discuss our plans with Mr. Purvis and point out to him that we are acquiring rights and information on Titanium Pigments owned by Commercial Pigments Company through the medium of organizing a new Company to take over these rights and also the business of the Grasselli Pigments Division and Krebs, which Company will be owned 70% by duPont.

4. I presume that we can assure Mr. Purvis that the present arrangements with C. I. L. by which they handle the resale of these products in Canada on behalf of the Grasselli Company can be continued. Further, when and if C. I. L. desire to acquire manufacturing rights, the position will be exactly the same as at present, except that C. I. L. will have to compensate the minority interest of the new Company as provided in the Minute of March, 1929. As against this, C. I. L. will secure a 70% free equity in the Titanium rights. In effect, therefore, we are making a deal on behalf of C. I. L., similar to the deal we are making for ourselves for

the rest of the North American Continent, and Mr. Purvis will have to accept our judgment that the trade is a good one.

5. It would be a wise precaution to ascertain that the Commercial Solvents Group has no tie-up in Canada which might affect the future relationship of the new Company with C. I. L.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, ASST. DIRECTOR.

JKJ/EMS

Exhibit 187

June 16, 1931

To: BOARD OF DIRECTORS
GRASSELLI CHEMICAL COMPANY

FROM: DEVELOPMENT DEPARTMENT
E. I. DU PONT DE NEMOURS & COMPANY

COMMERCIAL PIGMENTS CORPORATION

We are submitting to you herewith proposed form of agreement between Grasselli Chemical Company, E. I. du Pont de Nemours & Company and Commercial Solvents Corporation relative to organization of a new company to take over the pigments and color business of the companies named. It is considered that negotiations with the Commercial Solvents Corporation have been, for all practical purposes, concluded and that the proposition submitted herewith is substantially acceptable to the Grasselli Company's management but it is understood that some minor changes, chiefly a matter of phraseology, will have to be made before the form of agreement will be acceptable for execution by the parties thereto.

It is suggested that a resolution by your Board about as follows would be satisfactory:

WHEREAS, it is the sense of this Board that the consolidation of the pigment business of the Grasselli Chemical Company, inclusive of the Krebs Chemical Company and the Commercial Pigments Corp., is desirable, in accordance with the terms negotiated by the Development Department of E. I. du Pont de Nemours & Company with Commercial Solvents

Corp., owners of Commercial Pigments Corporation, as contained in form of agreement submitted today to this Board;

BE IT RESOLVED, that the President or any Vice-President of this company be and is hereby authorized to execute, on behalf of this company, an agreement substantially as now submitted to this Board.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 188

Copy to C. R. Mudge
W. R. Swint
J. B. Eliason

SERIAL NO: S-2413

TO: EXECUTIVE COMMITTEE

FROM: DEVELOPMENT DEPARTMENT

June 16, 1931

COMMERCIAL PIGMENTS CORPORATION

Proposed form of agreement relative to the organization of the new pigment company which will take over the pigments and color business of the Grasselli Chemical Company, inclusive of Krebs Pigment & Chemical Company and the Commercial Pigments Corporation, has been submitted to the Board of Directors of the Grasselli Chemical Company with the expectation that it will be approved by that company at today's meeting. Assurance has been received from Mr. Ticknor, President of the Commercial Solvents Corporation, owners of Commercial Pigments Corporation, that this form of agreement, substantially as submitted herewith, is satisfactory to him and that he has full authority from his Board of Directors.

It is desirable to obtain your Committee's approval at your regular meeting tomorrow inasmuch as plans have been made for examinations of assets, business, etc., to commence on the 18th instant. It is hoped that it will be possible to conclude examinations and proceed with the organization of the new company within the next few weeks in order to avoid publicity until official notice can be given to the organizations involved as well as to the public press, and to the trade.

Exhibit 188

It is called especially to your Committee's attention that we are in a somewhat embarrassing position with respect to the Canadian rights. The Commercial Pigments Corporation owns the Canadian rights to their titanium pigment business and are desirous of including these rights with the assets to be turned over to the new company. On the other hand, du Pont Company and Grasselli Chemical Company are not in a position to convey the corresponding Canadian rights to the new company on account of the stipulation that all such Canadian rights should be given to Canadian Industries Limited. It would be very unfortunate if it should be found necessary to exclude the Canadian rights from the new company because the rights of the Commercial Pigments Corporation are now available without cost to the new company. It is therefore recommended that Canadian Industries Limited should be advised of the situation and they be made to agree to waive their rights to obtain the du Pont and Grasselli titanium pigment information for Canada. As a matter of fact, the du Pont and Grasselli information in regard to titanium pigments is at this time of very little commercial value. Canadian Industries Limited should also waive their rights to obtain the titanium pigment information for Canada free of cost from the new company if they have any such rights. If Canadian Industries Limited should not be willing to waive such rights the only result would be that the new pigment company would not acquire the Canadian rights for Commercial Pigments Corporation and consequently C. I. L. would have to purchase their rights for Canada if they want them from the Commercial Solvents Corporation.

It is to be expected that within a comparatively few years du Pont Company will purchase the 30% minority

interest in the new pigment company and at such time du Pont would be in a position to turn over the Canadian rights to Canadian Industries Limited so that a waiver from Canadian Industries Limited at this time will no doubt result in the Canadian rights being available without further expense for Canada a few years hence whereas if such waiver is not obtained at this time, the Canadian rights will be excluded from the new pigment company.

It is also called to your Committees' attention with regard to the ilmenite deposit in India, that while it is looked upon as very valuable there is some uncertainty about it inasmuch as the political situation in India may be considered as doubtful and possibly some time interfering with shipments and, furthermore, only a minority interest is acquired in the Travancore Minerals Company. However, this uncertainty seems rather remote and the Commercial Pigments Corporation now has on hand more than two years' stock of ore at the Baltimore plant. With respect to the future supply, the new pigment company will be further protected by Canadian ore deposits which are now under option and investigation and which look quite promising, though it is expected that the Indian ore will be somewhat cheaper.

Inasmuch as E. I. du Pont de Nemours & Company is a party to the agreement, as well as the Grasselli Chemical Company, it is now recommended that your Committee approve the agreement and that the president or any vice-president be authorized to execute it on behalf of the du Pont Company substantially as submitted herewith, assuming that this agreement is also approved by the Board of Directors of the Grasselli Chemical Company. It is further recommended that the Canadian rights to manufacture and

Exhibit 188

sell be conveyed to the new pigment company by du Pont Company, Grasselli Chemical Company and the Commercial Pigments Corporation and that waiver be obtained from C. I. L. with respect to their obtaining manufacturing and selling rights in Canada free of cost from the new pigment company.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 189

COMMERCIAL SOLVENTS CORPORATION

Excerpt from Minutes of Meeting Held by Directors on June 24, 1931

After discussion it was, on motion duly seconded and unanimously adopted.

Resolved that this Board hereby approves the proposed agreement between The Grasselli Chemical Company and this Corporation and E. I. du Pont de Nemours & Company which has been presented to this meeting for consideration and which provides for a consolidation of the businesses of Krebs Pigment and Chemical Company and the Pigment Division of said Grasselli Company and the businesses of Commercial Pigments Corporation and American Ilmenite Corporation, and that the President or a Vice-President and the Secretary or an Assistant Secretary of this Corporation be, and they hereby are, authorized and directed to execute and deliver on behalf of this Corporation an agreement in substantially the form so presented.

Further resolved that the officers of this Corporation be, and they hereby are, authorized and directed to cause to be conducted the investigation by this Corporation provided for in said Agreement, and that the President or a Vice-President of this Corporation be, and he hereby is, authorized and directed, in the event that the results of said investigation are satisfactory to him, to notify said Grasselli Company that this Corporation desires to proceed with the plan of reorganization set forth in said agreement.

Further resolved that the officers of this Corporation be, and they hereby are, authorized and directed, in the

event that said agreement is duly executed and said Grasseli Company and this Corporation notify each other that they desire to proceed with said plan of reorganization, to take or cause to be taken such steps as they or any of them may deem to be necessary or advisable for the complete performance by this Corporation of its obligations under said agreement.

I, T. F. CARTY, Assistant Secretary of Commercial Solvents Corporation, a Maryland corporation having an office at No. 230 Park Avenue, New York City, DO HEREBY CERTIFY that the foregoing is a true and complete copy of certain resolutions duly adopted at a meeting of the Board of Directors of said Corporation duly held on June 24, 1931, and at which a quorum was present and voting throughout, and that said resolutions are now in all respects in full force and effect.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the corporate seal of the corporation this 14th day of July, 1931.

T. F. CARTY
Assistant Secretary

Subscribed and sworn to before me this 14th day of July, 1931.

J. SHELDON
Notary Public

Notary Public, New York County Clerk's No. 552, Register's No. 2 S 409. Commission Expires March 30, 1932.

Exhibit 190

Experimental Station

E. I. du Pont de Nemours & Co.,

June 24, 1931

MEMORANDUM

FROM H. BRADSHAW

COMMERCIAL PIGMENTS PATENT SITUATION

A separate memorandum prepared by Dr. Keats describes in detail the process of the Commercial Pigments Company for the manufacture of titanium oxide from ilmenite. The process seems to infringe six patents, five of which are owned by the National Lead Company. These patents are as follows:

Coffelt 1,357,690
Jebsen 1,333,819
Olsen & Forland 1,333,849
Wrigley & Spence 1,338,473
Fladmark 1,288,863
Goldschmidt 1,348,129

Inasmuch as the Coffelt patent is under option to the Du Pont Company, we shall not discuss it in the present memorandum but in regard to the other patents we shall try to present the situation as to infringement and the possibility of some changes in the process to avoid infringement.

1—Jebsen 1,333,819—Expires March 16, 1937

This patent contains three separate sets of claims which may be infringed by the Commercial Pigments process, but

only one of these groups of claims is of real importance. These are the claims which cover using in the attack less acid than would be required to form normal salts with the base-forming materials present in the resultant solution. Claim 5 is typical. Commercial Pigments uses 2.56 parts of sulfuric acid (figured as 100%) per pound of TiO_2 in the ore and they obtain about 80% efficiency in the conversion of the bases in the ore to soluble sulfates. Under these conditions the so-called free acid in the resultant solution is about 65 to 75%, according to their method of calculation. Their figures are actually about 15% too high due to the assumption that all soluble iron is in the ferrous form, whereas part of it is in the ferric form. This is immaterial, however, because as long as the free acid figures are under 100% they are within the Jebsen patent. Earlier in the year they were using a much higher acid ratio, namely 2.8 pounds per pound of TiO in the ore. They were then much closer to the upper limit of Jebsen but still definitely within the Jebsen patent.

If it becomes necessary to avoid Jebsen by raising the acid ratio in the attack, we were told by Mr. Rhodes that there should be no particular difficulty in handling the attack mass from the pan to the dissolvers. The present practice is to store the material in a pit to allow it to age for 24 hours, but he expressed the opinion that this would not be necessary if an excess of acid is used. He anticipated difficulty in the evaporation stage because if there is too much acid present during evaporation titanyl sulfate will be precipitated. Finally, he told us that the details of the hydrolysis procedure would have to be modified if more acid were present and that these details would have to be worked out. We are not at all sure that there would be

difficulty in the evaporation stage and, at any rate, we are convinced that it should be possible to develop a hydrolysis procedure that would not require concentration of the liquor and which could be carried out in the presence of more free acid. It should be noted that practically all of our experimental work at the station has been done with acid ratios outside of Jebsen or just slightly under the upper limit, so that we have a good deal of experience on hydrolysis of liquors of this type.

To summarize the situation, we should say that avoiding this part of Jebsen should not be particularly difficult, and, in the long run, would mean only the extra cost of the additional acid, which would amount to about .35¢ per lb. —TiO_2.

Claim 18 of Jebsen covers decomposition by steps and is probably infringed by the Commercial Pigments' process which involves reattacking the residual material from the first attack. If it should become necessary to avoid this claim, it could be done by using ground ore, thereby raising the recovery to such a point that reattack would be unnecessary.

Claim 9 and other claims such as 10 and 13 cover a counter-current leaching process, and in the latter claims it is tied up with obtaining a concentrated solution and with the low acid ratio respectively. Mr. Chase contends that the patent is not infringed because their process does not involve counter-current leaching but only counter-current washing after the leaching has been accomplished. He suggests that if necessary the process could be modified by using no fresh water on the Dorr classifier and by evaporating the solution from the filtration of the mud. The residue from the Dorr classifier goes back for reattack so that

any titanium solution that it retains would not be lost. If ground ore were used, I presume there would be very little material coming out of the Dorr classifier. In regard to the filtrate from the mud, he made the point that even now it might be more economical to evaporate it, because it is filtered solution and amounts to about 15% of the titanium extracted from the ore.

In regard to these two latter sets of claims in the Iebsen patent, we think they are of extremely doubtful validity and it is hardly worth while to make any effort to avoid them, although it can be done if necessary.

2—Olsen & Forland 1,333,849—Expires Mar. 16, 1937.

This patent covers reducing not only the iron but also "so much of the tetravalent titanium salts to titanium salts of a lower valence as will prevent a reoxidation of the iron during subsequent precipitation of the titanium hydrates". This patent seems to be infringed by the Commercial Pigments process. They make it a practice to reduce some of the titanium and this usually amounts to at least 3-4 grams (per liter) of titanium oxide present as titanous salts. This is done in order to prevent precipitation of colloidal sulfur from hydrogen sulfide by ferric iron during the clarification step, and to facilitate settling. They are not at all worried about the presence of a little ferric iron during the hydrolysis step. Even if the hydrolysis is conducted in the presence of a little ferric iron the iron can be washed out subsequent to hydrolysis. It is better, however, after hydrolysis to add a little zinc to the slurry before filtration, thereby reducing the ferric iron to ferrous iron. We should propose, then, either that the amount of over-reduction be so controlled that there would be no titanous salts present at

the beginning of hydrolysis, or that the over-reduction be neutralized at this stage by the addition of an oxidizing agent such as ferric sulfate.

3—Wrigley & Spence 1,338,473—Expires April 27, 1937.

The claims of this patent which cover removal of ferrous sulfate by crystallization are infringed by the Commercial Pigments process. Their operation is conducted at such a concentration of liquors that ferrous sulfate must be removed at some point. They cool to +15°C. and Mr. Rhodes told us that he had once operated at 20°C. when he could not reach a lower temperature. If it becomes necessary to adopt dilute hydrolysis in order to avoid the Fladmark patent, very few additional changes should be necessary to avoid infringing Wrigley & Spence. It should be possible to keep the liquors hot during the two clarifications, and either make use of this heat for the hydrolysis step or dilute for storage prior to hydrolysis.

An alternative would be to remove only that amount of ferrous sulfate which would crystallise out if the liquors were allowed to cool to room temperature. For example, we might use the present refrigerating equipment but cool the liquors only to +25°C. This might make necessary a little dilution after hydrolysis, or a more prolonged washing and perhaps a reslurring of the filter cake, but it would obviate any difficulty in keeping the liquors hot before the hydrolysis step. This procedure probably would infringe only Claim 4, which is certainly less likely to be held valid than the remaining claims.

4—Fladmark 1,288,863—Expires Dec. 24, 1935.

This patent covers hydrolysis of a concentrated solution by heating. If the process must be altered to avoid it,

we should have to run the liquor into a much larger amount of water, or prepare a seed separately according to one of the Commercial Pigments patents, and hydrolyze the dilute solution. According to our experience, which has been largely with dilute hydrolysis but has included enough concentrated hydrolysis to inform us of the difference, there is more difficulty in obtaining satisfactory pigment quality with dilute hydrolysis than with concentrated hydrolysis. We have never obtained the maximum quality necessary, the deficiency being chiefly in color, but we are confident it can be done, especially with the combined knowledge of the two companies.

No very expensive changes would be required in the plant in order to practice dilute hydrolysis (either with or without avoidance of Wrigley & Spence). The evaporation step prior to hydrolysis would be omitted, but it is probable that no additional storage tanks would be required. The present hydrolysis equipment seems to be ample for handling the more dilute liquors. The only additional equipment required should be a couple of cooling tanks prior to filtration and a little more filtering capacity, the total not exceeding $25,000.

The principal difficulty with dilute hydrolysis would be the disposal of waste acid. Mr. Chase stated that in the present process of 72 tons of H_2SO_4 are required per day to produce 20 tons of TiO_2. Of this amount 27 tons is available for return to the fertilizer company, and 7 tons for reuse in the attack. About 31 tons are combined as ferrous sulfate and the balance is carried into the bay as wash waters or into the air during calcination. The concentration of the acid in the liquors after hydrolysis is about 35%, but the recovered acid is usually only 24-25%.

Mr. Chase explained this drop as being partly due to deliberate dilution before filtration, in order to prevent contamination of filter cake with ferrous sulfate crystals. He claimed that a very sharp division can be obtained between the residual acid and the wash waters.

At any rate, in dilute hydrolysis the acid concentration in the liquors after hydrolysis should be 13-14%, and we figure that about 30 tons H_2SO_4 per day should be recovered at this concentration. Mr. Phelps decided that he was willing to accept the conclusion that the neighboring fertilizer companies would be glad to get this acid if delivered to them free of charge, and possibly if they had to pay for hauling. On this basis, the extra cost of dilute hydrolysis would be the loss of any credit for acid returned to the fertilizer company. This was negligible in May, but Mr. Chase forecasts an ultimate credit of 0.7¢ per lb. TiO_2. It is likely that the additional cost of steam for dilute hydrolysis would be compensated by the saving of steam for evaporation.

To summarize the situation, it seems to be very desirable to retain the concentrated hydrolysis procedure; but there is a way out without undue additional expense either for equipment or for operation.

5—Goldschmidt 1,348,129—Expires July 27, 1937.

This patent covers specifically the calcination of titanium hydrate at 900-1000°C. and more broadly the calcination "until the particles constituting the structure exhibit a crystalline interior structure and a smooth exterior surface". The Commercial Pigments process undoubtedly infringes this patent and must continue to infringe at least the broad claims. Mr. Rhodes told us that they calcined for several

months at a temperature not over 800°C. and obtained just as satisfactory a product as is now obtained at 900-950°C. He told us that the only objection to the lower temperature is the longer time required for calcination, and this did not seem to be very serious. Calcination at this lower temperature would be less objectionable from the patent point of view because it is disclosed in U. S. patent 1,205,144 which describes the calcination of an extended pigment. This patent states "I calcine it at, say, 600° to 800°C. with such complete expulsion of volatile matter as to result in decomposition of basic titanic sulfate; whereby I obtain my final pigment product consisting of amorphous titanic oxide on a sulfate base". It should be noted that this earlier patent of Barton's describes the product as being amorphous, but this is an error. Calcining at 800°C., as described, is bound to give crystallinity of the type described by Goldschmidt. It is of interest that in the Commercial Pigments calcination process the control point is neutrality of the pigment, which means complete removal of the volatile material, namely, sulfuric acid. This is practically the same procedure as is described by Barton. We are somewhat concerned about the probability that calcining at 800° would give us too high an oil absorption and it might be difficult to cure this by other treatments. According to our own experience on material from dilute hydrolysis, calcining at 850°C. for a longer time gives practically the same strength as calcining at 950°C. but the oil absorption is somewhat higher.

Summary

Of the patents which have been discussed above, we feel that it should be most easy to avoid Olsen & Forland and

next in order Jebsen. We think there should be no great difficulty in avoiding the narrower and more likely valid claims of Wrigley & Spence, and that we can avoid Claim 4 which broadly covers the removal of ferrous sulfate by crystallization, if at the same time we adopt dilute hydrolysis in order to avoid Fladmark. We are reluctant to avoid Fladmark because of the advantages of concentrated hydrolysis, including the disposal of waste acid, but it can be done without undue expense. We are uncertain about avoiding Goldschmidt, but based on Commercial Pigments statement, it seems probable that the narrower and more likely valid claims can be avoided.

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c/c—W. J. Beadle,
Development Dept.

June 25, 1931.

To: J. B. Eliason,
Treasurer

From: Assistant Comptroller

AGREEMENT OF REORGANIZATION BY AND BETWEEN THE GRASSELLI CHEMICAL COMPANY, COMMERCIAL SOLVENTS CORPORATION AND E. I. DU PONT DE NEMOURS & COMPANY

Investigation of the books and records of the Commercial Pigments Corp. and American Ilmenite Corp. (Subsidiaries of Commercial Solvents Corp.) was made June 18th and 19th at the New York office of these Companies for the purpose of verifying representations made by these Companies appearing on pages two and three of above mentioned agreement, paragraphs A, B, C and D. The following records the results of our investigation. Mr. E. L. Pangborn, Comptroller of Commercial Solvents Corp. and Vice-President and Treasurer of Commercial Pigments Corp., was the representative of Commercial Solvents Corp. through which we contacted on accounting matters.

Representation "A"

"That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities

may have been or may be increased or decreased in the ordinary course of business since April 30, 1931."

There follows a brief comment on each item appearing on consolidated balance sheet (April 30, 1931) shown as Exhibit "B" in above mentioned agreement.

Schedule "A", attached, shows a comparative balance sheet as of April 30 and May 31, 1931 of Commercial Pigments Corp. and American Ilmenite Corp. consolidated.

CASH—$93,439.57

The records indicate that this amount of cash is in bank in New York and Baltimore. As of May 31, 1931 Cash appears as $223,948.16 and the increase is practically all represented by an amount advanced by Solvents to Commercial Pigments Corp. to enable the latter Company to purchase the land at Baltimore on which the plant now stands.

ACCOUNTS RECEIVABLE—$91,448.36

Inasmuch as the agreement stipulates that all parties are responsible for the collection of Accounts Receivable turned over to the new Company, it was agreed (between Mr. E. L. Pangborn and the writer) that no detailed check of these assets would be made. However, as a matter of information, the detail of the April 30th and May 31st balance is shown on Schedule "A" attached. A Bad Debt Reserve is not maintained but as of December 31, 1930, surplus account was charged with bad debts amounting to $1,494.41.

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INVENTORIES—$306,987.46

The detail of April 30th inventory is shown as well as May 31st position.

	April 30, 1931	May 31, 1931
Raw Materials	$223,474.22	$210,499.20
In Process or Semi Finished	20,255.43	22,502.15
Finished Product	63,257.81	69,373.64
Total—	$306,987.46	$302,374.99

A perpetual inventory record is maintained and costing monthly is done on a to date average price basis, which includes current month production and purchases. As and when Raw Material book figures appear out of line with current prices, adjustment is made to the current figure. The records indicate that as of December 31, 1930, Surplus Account was charged with a reduction in inventory value of Screened Sweepings amounting to $12,489.08.

Schedule "B" attached, shows the inventory in complete detail for the months of April and May, 1931. It will be necessary to have an actual count made of the Finished and Semi Finished stock and certain Raw materials located at Baltimore, and this is being arranged for.

The Engineering Department have informed us that a general survey of the stock of Ilmenite on hand at Baltimore Plant (book cost as of May 31, 1931 $203,955.10) has been made (without taking actual measurement) and they believe the quantity shown on Commercial Pigments Corp. records to be approximately correct. A report to this effect is being made to Dr. Sparre by the Engineering Department.

The stock of ground titanium oxide on hand May 31, 1931 (420,739 pounds) is shown at a book value of $.112

per pound compared to a current cost in May, 1931 of $.09064.

STORES & TOOLS—$24,006.16

A detailed check of this account will be made when physical check is made of other inventory items at the Baltimore Plant.

PREPAID INSURANCE—$4,659.54

Represents the unexpired portion of insurance premiums paid in advance. These premiums are charged to Operations monthly on the basis of the life of the insurance. Considerable rearrangement of insurance took place in May, 1931 as the result of pro rata cancellation of old policies, which were rewritten for a larger amount at reduced rates. Prepaid Insurance as of May 31, 1931 amounted to $9,659.39. Both the April and May figures were found to be correct. A complete record of all insurance presently in force is in our possession for reference and for information of our Insurance Department in event the reorganization is actually consumated.

NEW YORK MISCELLANEOUS (SUSPENSION)—$49.21

This amount represents an item in Suspension which disappeared during the month of May. However, May 31st shows a debit balance of $5,258.01 representing a deposit made in May toward the purchase of land on which the Baltimore Plant is located. At the present time, the land is leased with an option to purchase same and this option is now being exercised.

Exhibit 191

NEW YORK OFFICE—$415.30

This item represents a small amount of furniture and fixtures contained in one room in the New York Office, the majority of the furniture of the New York Office being the property of Commercial Solvents Corp.

BALTIMORE PLANT—$1,426,011.82

Plant account was built up in the following manner:

Commercial Pigments Corp. appro. (May 1927 to Dec. 1928)	$ 117,378.44
Bedford Construction Co. (Last 3 months 1928 & Jan., February 1929)	482,772.48*
Commercial Pigments Corp. appro. (Jan. 1929—May 1931)	92,730.05
United Engineers & Construction Co. (New plant recently completed)	699,535.57**
Commercial Pigments Corp. (Recent additional charges to Old Plant)	33,595.28
	$1,426,011.82

*Includes Engineering Fee of $14,000
**Includes Engineering Fee of $44,000

The books indicate the above amounts were actually expended. Mr. Pangborn explained that the item shown above amounting to $33,595.28 represents expense of rounding out old and new investment and connecting up the two during the months of January and February, 1931 when the Plant was temporarily idle. Plant operating men were used on this work and it is admitted by Mr. Pangborn that perhaps 10% of this amount should have gone to Operations,

representing idle time. This appears unimportant however. The Engineering Department is making a detailed check of this investment and they have informed us that in their opinion equipment amounting to approximately $109,000 is obsolete.

Depreciation of Plant investment has never been provided for but as of December 31, 1930 Surplus account was charged in the amount of $73,614.33 covering dismantled, scrapped and obsolete equipment written off. This charge off is equivalent to 5% Depreciation on the old investment of approximately $700,000.00 for a period of two years and appears to partly offset the Company's failure to set up Depreciation. The new Company should, however, depreciate its entire Plant investment immediately.

INVESTMENT IN TITANUITE, LTD.—$1,215.39

This amount representing a loan to Titanuite, Ltd. should be increased by $9.70 representing the value of two shares of Titanuite Ltd. stock which has been erroneously included in the value shown for Travancore investment in Exhibit "B" of agreement. This asset is, however, to be retained by Commercial Pigments Corp. and hence, is of no interest to us.

INVESTMENT IN TRAVANCORE, LTD.—$77,682.07

Investment should be reduced by $9.70 as indicated above, making the investment $77,672.37. These securities (detail shown below) are located at the London Office of Guaranty Trust Company and there is attached copy of letter dated February 17, 1931 from the London Office of

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Arthur Young & Co. (a certified public accounting firm in New York City) certifying that these securities are actually on deposit in London. Apparently there is some doubt (as is indicated in attached letter of February 17, 1931) as to the legality of the manner in which these securities have been handled and this point will be brought to the attention of our Legal Department.

150 Bonds Travancore Minerals Co. Ltd.	$70,667.50
17490 "A" Shares Travancore Minerals Co. Ltd.	4,241.35
4500 Ordinary Shares Travancore Minerals Co. Ltd.	2,763.52
	$77,672.37

INVESTMENT OF ORE LANDS—$993.98

This item is not to be transferred to the new company and, hence, is of no interest to us.

PREPAID ROYALTIES—$127,755.46

This amount covers unamortized portion of an original payment of $128,561.90 representing the cost of 5,556 shares of common stock of Commercial Solvents Corp. (purchased in open market by Solvents) turned over to French interests in payment for certain United States patents (Titanium Oxide). The original agreement with the French, dated March 24, 1927, provided for a minimum total Royalty payment of $670,000.00 over a period of fifteen years, but in December 1929 a supplementary agreement was drawn providing for the cancellation of said minimum payment and all other payments and the acceptance by

the French of 5,556 shares of Commercial Solvents Corp. common stock in lieu of all payments due under the first agreement. This appears to have been a most advantageous settlement. Amortization of the original payment was recently started on the basis of 1/10 of a cent per pound of Titanium Oxide produced monthly. It is our opinion that the new Company (for Federal Tax purposes) should amortize the balance of this payment on the basis of the life of the patents rather than on a production basis.

ACCOUNTS PAYABLE—$83,446.81

As of April 30th the Accounts Payable were divided as Follows:

Due Travancore Minerals Co., Ltd.	$40,535.96
Due All Other Vendors	42,895.75
Unclaimed Wages	15.10
Total—	$83,446.81

The Accounts Payable shown above as "Due All Other Venders" were paid during May, 1931. As of May 31st the Accounts Payable appeared as follows:

Due Travancore Minerals Co., Ltd.	$40,721.76
Due All Other Venders	45,744.91
Unclaimed Wages	15.10
Total—	$86,481.77

The amount shown as "Due Travancore Minerals Co., Ltd." in both April and May represents purchases of Ilmenite, which will be paid for shortly. It is the general practice of Commercial Pigments Corp. to pay all current

months' bills on the 10th of the succeeding month and arrangements have been made with most venders to allow discount on this basis.

ACCRUALS—$8,144.24

The detail of this amount as well as the May 31, 1931 balance of $5,606.07 is shown below:

	April 30, 1931	*May 31, 1931*	
Payroll	$3,215.83	$ 485.12	Amount due at close of month covering period in between pay days.
Insurance	1,907.74	2,547.69	Workmens' Comp. and Public Liab. Ins. set up on Total Payroll.
Property Taxes (Baltimore Plant)	1,264.18	1,564.18	Real Estate and Personal Property.
Water Rent	1,756.49	1,009.08	Payable quarterly.
	$8,144.24	$5,606.07	

All of the above items are proper accruals.

ACCRUED FEDERAL INCOME TAXES—$5,398.47

Inasmuch as these taxes will be payable by Commercial Solvents Corp. as a result of Consolidated Federal Income Tax Return filed by said Company, which will include the income of Commercial Pigments Corp. and American Ilmenite Corp. to date of formation of the new Company, it appears inconsistent to transfer this liability to the new Company. Mr. Pangborn agreed on this point and these reserves will therefore be retained and not transferred to the new Company.

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Representation "B" Appearing on Page 3 of Agreement

"That for the four (4) months ending April 30, 1931, the net sales of Titanium Oxide was approximately $303,000."

Our examination shows the actual sales of Titanium Oxide for the first four months of 1931 to be:—

January	$60,338.28
February	56,525.79
March	83,645.61
April	100,363.08
Total—	$300,872.76

This total is slightly less than the amount noted in the agreement and the difference represents small sales of Copperas, Acid Cake and Titanium Sulphate included in error in figures shown in agreement.

Representation "C"

"That for the month of April 1931, the total mill cost of sales of Titanium Oxide was approximately $70,270 with sales of approximately 629,300 pounds."

Our examination discloses the total Cost of Sales of Titanium Oxide in April 1931 to be $69,126.25 and sales to be 628,367 pounds. These slight differences represent small sales of Acid Cake and Cost of Acide Cake Sales which were included in error in figures contained in the agreement.

Exhibit 191

Representation "D"

"That in the opinion of Solvents, its Baltimore Plant has an annual capacity of approximately 7200 tons of titanium dioxide and can produce titanium dioxide, when operating at capacity, at a total mill cost not exceeding eight (8) cents per pound based on average cost of ilmenite for the first five (5) months of 1931."

The annual capacity of the Baltimore Plant can be verified only by our Operating and Engineering Departments and it is our understanding that this check has been made.

In regard to obtaining a Cost of Titanium Oxide not to exceed $.08 per pound, when operating at capacity with ilmenite at the average cost of the first five months of 1931, we have the following comments to make.

The records show the following production of Titanium Oxide and cost of same before grinding:

	Pounds Produced	*Cost per Pound*
March	298,777	.10890
April	806,330	.08706
May	929,097	.07652

The Quantity ground and the cost including grinding and packing follows:

	Pounds Produced	*Cost per Pound*
March	217,168	.13616
April	593,919	.10976
May	753,709	.09064

Inasmuch as the May figures show that over 80% of the month's production was ground, and as the demand for

the ground product appears to be on the increase, it is assumed that the $.08 cost figure mentioned on Page 3, Representation "D", applies to the Finished Ground Product.

On the basis of the Cost Accounting methods employed by Commercial Pigments Corporation and accepting the statement that practically no additional labor will be necessary to produce the unground product up to Plant capacity, then the labor and overhead of $30,233 shown on the May Cost report, if spread on the capacity production of 1,200,000 pounds per month, will amount to $.0252 per pound as against $.03165 per pound shown for the May yield production of 955,011 pounds. Monthly labor and overhead expense is distributed on yield production (955,011 pounds in May) which includes "materials in process" and hence this figure differs from the unground production figure shown above for May of 929,097 pounds. Deducting the difference between $.0252 per pound and $.03165 per pound from May ground cost $.09064 per pound leaves a cost of $.08419 per pound. It seems probable that the discontinuance of 5% commission paid to American Ilmenite Corp. by Commercial Pigments Corporation on all ilmenite purchased by the latter Company from the former (commission amounted to $680 in May) plus expected operating efficiency and better yields would further reduce the cost shown above of $.08419 per pound to approximately $.08 per pound.

The Commercial Pigments Corporation however has made no provision for Depreciation and in addition has omitted from cost a number of important items of expense (which they charge direct to Profit & Loss) but which under the du Pont system of Cost Accounting and under generally accepted Cost practice, are considered proper elements of Cost. These items are as follows:

Exhibit 191

Plant Office Expense—Includes expense of Plant Manager's Offices, Purchasing Department, Plant Accounting and Engineering Department.

Service Department—Includes expense of chemical control, Receiving and Storage Room Shipping Room, Tank Cars and Yard Expense.

Research and Development—Represents chemical research on Titanium Oxide.

In discussing Depareciation of Plant with Zack Phelps of the Grasselli Chemical Company, he stated that as a result of a careful inspection of the Baltimore Plant, a depreciation rate of from 8% to 10% per annum should be used because of the high obsoleseence factor in this particular (new) branch of the chemical industry. Mr. Phelps has made a recommendation acsordingly in a separate operating report to Dr. Sparre. The rates recommended by Mr. Phelps appear high.

Assuming a depreciation rate of 6% per annum, the following items are being added to May Cost to determine a Cost in accordance with du Pont practice.

1/12 of 6% depreciation on investment of $1,426,000 equals monthly depreciation of	$7,130.
(May) Plant Office Expense	3,477.
(May) Service Department Expense	3,615.
(May) Research and Development Expense	720.
Total —	$14,942.
Total brought forward —	$14,942.

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Exhibit 191

DEDUCT:

Credit for monthly rent of land which rent has been discontinued during the current month owing to the purchase of said land. The rent per annum was $6,300.	$525.	
Credit representing discontinuance of payment of 5% commission of ilmenite purchases (based on May consumption)	660.	1,185.
Total Charges to be added to Cost—		$13,757.

No part of New York Office Expense ($630 in May) is included in Commercial Pigments Corporation Costs and we have also ignored the same. Research Expense shown above does not include Research work carried on at Terre Haute on Titanium Oxide, this expense being absorbed by Commercial Solvents Corporation.

Applying this additional monthly charge of $13,757 to the May Unground Yield Production of 955,011 pounds creates an additional cost per pound of $.01440, increasing the May Unground cost from $.07652 to $.09092. This additional cost of $.01440 added to the May Ground cost of $.09064 shows a corrected Ground cost of $.10504.

Assuming that Plant capacity of 1,200,000 pounds per month can be reached, then a redistribution of the May overhead and labor costs of $30,233 plus the additional cost items shown above of $13,757 (total $43,990) over the maximum production of 1,200,000 pounds as against the pounds produced in May, will reduce the Ground Cost from $.10504 to $.09564. Comparing the revised Ground Cost of $.09564 with the expected Cost of not more than $.08 per pound (as stated in agreement) shows an excess Cost,

which in the opinion expressed to us by Mr. Zack Phelps, would be difficult to offset by increased efficiency in plant operation and/or in improved yields.

Mr. Zack Phelps is of the opinion that while the Baltimore Plant may be able to produce 1,200,000 pounds a month, it cannot grind this amount without adding to the present equipment at a cost of approximately $50,000.

Annual Audit of Commercial Solvents Corp. and Subsidiary Companies by Arthur Young & Co. (New York Firm of Certified Public Accountants)

The annual audit for the year 1930 was covered by a consolidated report and because of certain confidential Cost information of the Parent Company contained in this report, it could not be expected that said report would be given us for our inspection.

The pertinent paragraphs relating to Commercial Pigments Corp. and American Ilmenite Corp. were shown us and copies made thereof. These paragraphs disclosed verification of the following items as of December 31, 1930:

1. Assets and liabilities (in general)
2. Stocks and bonds (Specific verification)
3. Prepaid Royalties (Specific verification)
4. Charges to Surplus Account—$87,597.80 (Specific verification) covering reduction in value of inventory of Screened Sweepings $12,489.06, Accounts Receivable written off $1,494.41, and dismantled, scrapped and obsolete equipment written off $73,614.33.

The last paragraph of the audit report contains certification and bears the signatures of Arthur Young & Co., reading as follows:

753-C

Exhibit 191

"We have made what is generally known as a Balance Sheet Audit, embracing the verification of Assets and Liabilities appearing on the books of your Corporation and its subsidiaries at December 31, 1930, together with a verification of movement of cash between Terre Haute, Peoria, Baltimore and New York, during the year.

All of the operating accounts have been scrutinized including the inspection of pay-rolls for portions of the year.

Yours truly,

(s) ARTHUR YOUNG & Co."

General

With the exception of Cost Accounting procedure, which has been commented on above, the general accounting methods employed appear to be conservative and follow established practice. Spot checks were made to verify that Sales, Cost of Sales, Payrolls, Materials and other accounting details properly handled and this check revealed no irregularities. The accounting organization appears capable and efficient and the management of these Companies afforded us every opportunity to obtain full and complete information regarding the general conduct of the affairs of these Companies.

s/ A. C. NIELSEN
Assistant Comptroller

This investigation was conducted by A. C. Nielsen, A. B. Underwood and T. J. Ross

Exhibit 192

Copy to J. B. Eliason
C. R. Mudge
E. K. Bolton
C. H. Rupprecht

To: EXECUTIVE COMMITTEE
and
BOARD OF DIRECTORS
GRASSELLI CHEMICAL COMPANY

SERIAL NO: S-2418

July 3, 1931

FROM: DEVELOPMENT DEPARTMENT

COMMERCIAL PIGMENTS CORPORATION

You are advised that detailed examinations have been made by representatives of the Grasselli Chemical Company, Legal Department, Treasurer's Department, Chemical Department and Engineering Department, as well as by this Department, of books, plant and assets in general, patent situation, etc., of the above company. There have also been conferences with representatives of Commercial Solvents Corporation, who, to-date, have made only preliminary investigation of the Grasselli pigment and color industry.

Mr. W. D. Ticknor, President of the Commercial Solvents Corporation, has stated to the writer that if du Pont and Grasselli are now ready to accept the proposition he will, on behalf of his company, accept it without further investigation on their part, but if we raise the question of any adjustments they will have to proceed with their detailed study of our assets, etc.

From our standpoint, everybody is satisfied that the Commercial Pigments' business is practically as represented

and satisfactory. However, it is proper to call attention to a few questions which have come up for special discussion.

1. The patent situation is shown to be about as expected, not altogether clear or satisfactory, but, if anything, better than anticipated. Infringed patents are of doubtful validity and in all cases avoidable if necessary, though some capital and operating expense would be required under the most unfavorable circumstances. To the writer the risk seems to be only a fair business risk and unlikely to happen.

2. The plant value has been established except as to a comparatively small amount, say $70,000 worth of equipment which appears obsolete. Some additional construction work will be required such as sprinklers but of no great consequence and no more than the case with operating plants in general.

3. There has been considerable discussion of established plant cost inasmuch as some items of cost and credit are not in accordance with our views. However, this does not substantially change the forecast of future costs and earnings.

4. There has been considerable discussion of capacity of the Baltimore plant alleged to be 20 tons per day. It was found that the limiting factor is principally drier capacity and of 13 tons and it might cost $50,000 to $60,000 to take care of this situation. However, the Pigment Corporation maintain that they have not been pushed to capacity because some material sold does not require this operation and they can, if required, make some inexpensive changes with steam coils, extruders, etc., to obtain the capacity. This difference of opinion is hardly worth further discussion.

Exhibit 192

It will be seen that some claims might be made for adjustment on account of the above items. On the other hand, the Newark acid plant is not an asset and in case of controversy relative to adjustment Mr. Ticknor would claim this to be written off as obsolete. It is also clear that in old plants such as Newark and Krebs there must be some equipment to which exception could be taken as to value.

It must be understood in this connection that as a matter of fact no substantial claims can actually be made on account of possible additional construction work for additional drier capacity, sprinklers, etc., because if this extra addition to capital is made by the Commercial Pigments Corporation, it would simply act to increase their capital account and correspondingly decrease the amount of cash which they will have to contribute in order to obtain their 30% interest in the new company. It seems better not to raise this point but have the new company make such additional capital expenditures as may seem justified as business develops. The only actual adjustments which could be requested would be on account of obsolete equipment but which would appear probably to be offset substantially by old equipment in our own plants such as mentioned.

Considering the magnitude of the transaction and the general satisfaction it seems a waste of time and effort to reopen negotiations in order to submit claim for adjustment in settlement which could not amount to very much net and which would force Mr. Ticknor to order a detailed examination of our plants with subsequent drawn out arguments about valuation, depreciation, etc. It is the writer's belief that inclusive of the acid plan, there would be enough question about our values to offset approximately our claims.

Exhibit 192

Detailed reports are in the course of preparation.

It is important to save time because costly research work, drilling of ore bodies in Canada, etc., is in progress for which du Pont will receive no credit until consolidation takes effect and the opinion is unanimous that this consolidation is desirable.

It is this Department's opinion that the results of examination are in accord with the statements on which negotiations were based and that there is no substantial reason for rejection of agreement and reopening of negotiations.

It is recommended that the Development Department be authorized to make the necessary arrangements for consolidation of the Grasselli, Krebs and Commercial Pigments Corporation pigment and color business in accordance with the previously approved plan and advise Mr. Ticknor to this effect.

Respectfully submitted,

FIN SPARRE
Director

Exhibit 193

COPY

E. I. DU PONT DE NEMOURS & COMPANY

EXECUTIVE COMMITTEE

PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF THE COMMERCIAL PIGMENTS CORPORATION:

It was moved and unanimously carried that the Development Department's report of July 3rd be received and ordered filed, and that, pursuant to the recommendation contained therein (which has been informally approved by a majority of the members of the Board of Directors of The Grasselli Chemical Company) the Development Department be authorized to make the necessary arrangements for consolidation of the Grasselli, Krebs, and Commercial Pigments Corporation pigment and color business in accordance with the previously approved plan, and advise Mr. Ticknor to this effect.

This is to certify that the above is a true and correct copy of action taken by the Executive Committee of E. I. du Pont de Nemours & Company, at a meeting held on July 8, 1931.

(S) M. D. FISHER
Assistant Secretary

1119

Exhibit 193

COPY

E. I. DU PONT DE NEMOURS & COMPANY

FINANCE COMMITTEE

PROPOSED CONSOLIDATION OF PIGMENTS BUSINESS OF THE GRASSELLI CHEMICAL COMPANY (INCLUDING KREBS) WITH THAT OF COMMERCIAL PIGMENTS CORPORATION:

The following resolution was offered and unanimously adopted:

RESOLVED, that the President or any Vice-President of this Company, together with the Secretary or an Assistant Secretary, be and they hereby are authorized to execute an agreement between The Grasselli Chemical Company, Commercial Solvents Corporation and E. I. du Pont de Nemours & Company, with reference to a consolidation of the pigments business of The Grasselli Chemical Company (including Krebs) with that of Commercial Pigments Corporation, substantially as per copy attached to report from the Development Department to the Executive Committee, dated June 16, 1931.

This is to certify that the foregoing is a true and correct copy of resolution unanimously adopted by the FINANCE COMMITTEE of E. I. DU PONT DE NEMOURS & COMPANY at a meeting held on July 6, 1931.

(S) M. D. FISHER
Ass't. Secretary

E. I. DU PONT DE NEMOURS & COMPANY

Exhibit 193

SUBJECT: Proposed Consolidation of Pigments Business of The Grasselli Chemical Company (Including Krebs) With That of Commercial Pigments Corporation.

WHEREAS, it is the sense of this Board that the consolidation of the pigment business of The Grasselli Chemical Company, inclusive of the Krebs Chemical Company and the Commercial Pigments Corporation, is desirable, in accordance with the terms negotiated by the Development Department of E. I. duPont de Nemours & Company with Commercial Solvents Corporation, owners of Commercial Pigments Corporation, substantially as contained in form of agreement submitted today to this Board;

BE IT RESOLVED, that the President or any Vice President of this Company be and is hereby authorized to execute, on behalf of this Company, an agreement substantially as now submitted to this Board.

The importance of the name of the new corporation to be formed as a result of the foregoing agreement was given due consideration, and on account of the good-will value of the Krebs name as related to the pigment industry, it was, on motion, duly made and seconded:

RESOLVED, that this Board recommend to the Executive Committee of the DuPont Company the adoption of the name "Krebs Pigment & Color Company".

After careful consideration, it was, on motion duly made and seconded:

RESOLVED, that it is the sense of this Board that the Board of Directors of the new corporation should be composed of seven members, and it is recommended that the following men represent The Grasselli Chemical Company on the Board:

Exhibit 193

T. S. Grasselli
E. W. Furst
E. C. Thompson
Wm. Richter

it being understood that Commercial Solvents Corporation will be represented by W. D. Ticknor and T. P. Walker.

FURTHER RESOLVED, that it is the sense of this Board that the seventh member of the Board of Directors of the new corporation should be the President of that Company, and for President we recommend Carl H. Rupprecht.

* * * * * * *

I, O. M. Hook, Secretary of The Grasselli Chemical Company, a corporation of Delaware, do hereby certify that the foregoing is a true and correct copy of a resolution adopted at a regular meeting of the Board of Directors of The Grasselli Chemical Company, duly called and convened on the 16th day of June, 1931, with a quorum present, and that the same is not inconsistent with the articles of incorporation of said company or with the by-laws of said company or with any rule, law or resolution adopted by the Board of Directors, and that said resolution is now in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of the corporation this 9th day of July, 1931.

O. M. HOOK,
Secretary

Subscribed and sworn to before me this 9th day of July, 1931.

M. J. COLLINS
Notary Public

Exhibit 193

SUBJECT: Proposed Consolidation of Pigments Business of The Grasselli Chemical Company (Including Krebs Pigment & Chemical Company) with Commercial Pigments Corporation.

Executive Committee Resolution No. 4026, July 9th, 1931 was submitted, approving and recommending to this Board the authorization of all acts necessary to carry into effect the consolidation of the pigments business of The Grasselli Chemical Company, including Krebs Pigment & Chemical Company, with Commercial Pigments Corporation, and further recommending that the President be authorized to notify Commercial Solvents Corporation that this Company desires to proceed with the plan as set forth in the Agreement of Reorganization of July 7th, 1931.

The Executive Committee Resolution above referred to also calls the attention of this Board to modifications necessary in Board of Directors Resolution No. 357, June 16th, 1931, in that the name of the new company is to be "Krebs Pigment & Color Corporation", and further that the Board of Directors of the new company is to consist of eight (8) members instead of seven (7); three (3) to be named by Commercial Solvents Corporation; four (4) by Grasselli; and the eighth to be the President of the new company.

On motion, duly made, seconded and carried, it was

RESOLVED, subject to the approval of the Parent Company Executive Committee, that the recommendations covered by Grasselli Executive Committee Resolution No. 4026, July 9th, 1931, as above stated be and they hereby are approved.

FURTHER RESOLVED, that the name of the new company is to be "Krebs Pigment & Color Corporation" and that the

Board of Directors of said company is to consist of eight (8) members instead of seven (7); three (3) to be named by Commercial Solvents Corporation; four (4) by Grasselli, and the eighth to be the President of the new company.

BE IT FURTHER RESOLVED, that the President of this Company be and he hereby is authorized to advise Commercial Solvents Corporation of the intention of this Company to proceed with the reorganization as set forth in the Agreement of Reorganization of July 7th, 1931.

* * * * * * *

I, O. M. Hook, Secretary of The Grasselli Chemical Company, a corporation of Delaware, do hereby certify that the foregoing is a true and correct copy of a resolution adopted at a special meeting of the Board of Directors of The Grasselli Chemical Company, duly called and convened on the 9th day of July, 1931, with a quorum present, and that the same is not inconsistent with the articles of incorporation of said company or with the by-laws of said company or with any rule, law or resolution adopted by the Board of Directors, and that said resolution is now in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the corporate seal of the corporation this 9th day of July, 1931.

O. M. HOOK,
Secretary

M. J. COLLINS
Notary Public

Exhibit 194

COPY

COMMERCIAL SOLVENTS CORPORATION
230 PARK AVENUE
NEW YORK

July 7, 1931

Grasselli Chemical Company,
Guardian Building
Cleveland, Ohio

Gentlemen:

GRASSELLI, SOLVENTS & DU PONT
REORGANIZATION AGREEMENT

In accordance with Article IV of the Agreement between Grasselli Chemical Company, E. I. du Pont deNemours & Company and this Company, we hereby give you notice that this Company desires to proceed with the plan of reorganization as set forth in said Agreement.

Yours very truly,

(S) W. D. Ticknor
President

Exhibit 195

AGREEMENT OF REORGANIZATION

THIS AGREEMENT entered into on the 7 day of July, 1931, by and between THE GRASSELLI CHEMICAL COMPANY, a corporation of the State of Delaware, hereinafter called GRASSELLI, and COMMERCIAL SOLVENTS CORPORATION, a corporation of the State of Maryland, hereinafter called SOLVENTS and E. I. DU PONT DE NEMOURS AND COMPANY, a corporation of the State of Delaware, hereinafter called DUPONT.

WITNESSETH:

WHEREAS, Grasselli is engaged, among other things, in the manufacture and sale at Newark, New Jersey, of Lithopone and Dry Colors; and

WHEREAS, Grasselli owns all of the outstanding capital stock of KREBS PIGMENT & CHEMICAL COMPANY, a corporation of the State of Delaware, which is engaged in the manufacture and sale of Lithopone; and

WHEREAS, DuPont owns all of the outstanding capital stock of Grasselli and desires to grant to the Corporation to be organized, as hereinafter set forth, certain rights and privileges; and

WHEREAS, Grasselli represents:

(a) That the assets and liabilities of Krebs Pigment & Chemical Company and Grasselli Pigment Division are substantially the same as

those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "A", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

(b) That for the four (4) months ending April 30, 1931, the net sales of Lithopone was approximately $1,816,197 and the net sales of Dry Colors, was approximately $635,513.

(c) That for the month of April 1931, the total mill cost of sales of Lithopone was approximately $394,892 with sales of approximately 12,385,753 pounds and the total mill cost of sales of Dry Colors was approximately $172,860.

(d) That the processes of Krebs Pigment & Chemical Company and Grasselli Pigment Division do not infringe any outstanding patents, which in Grasselli's opinion would be held valid, if litigated; and

WHEREAS, Solvents owns all of the outstanding capital stock of COMMERCIAL PIGMENTS CORPORATION, a corporation of the State of Delaware, which is engaged in the manufacture and sale of Titanium Pigments; and

WHEREAS, Solvents owns all of the outstanding capital stock of AMERICAN ILMENITE CORPORATION, a corporation of the State of Delaware, which is engaged in the sale of Ilmenite and other minerals in the United States of America; and

Exhibit 195

WHEREAS, Solvents represents:

(a) That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

(b) That for the four (4) months ending April 30, 1931, the net sales of Titanium Oxide was approximately $303,000.

(c) That for the month of April 1931, the total mill cost of sales of Titanium Oxide was approximately $70,270 with sales of approximately 629,300 pounds.

(d) That the processes of Commercial Pigments Corporation do not infringe any outstanding patents, which in Solvents' opinion, would be held valid, if litigated; and

WHEREAS, it is the view of the parties hereto that the advantages to be gained from the combined knowledge and experience of said subsidiary companies and the parties hereto will result in the advancement and development of the Pigment and Dry Color industry and will assure greater economies, and that it is mutually desirable for said parties to enter into a plan of reorganization, in order to bring under one organization and management the said Pigment and Dry Color businesses of the parties hereto; and

WHEREAS, in order to bring about such a plan of reorganization, the parties hereto have agreed to severally transfer and convey and/or cause to be transferred and conveyed certain properties and other assets to a corporation hereafter to be organized, upon the terms and conditions hereinafter set forth;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and conditions hereinafter set forth, to be kept and performed, the parties have agreed as follows:

I.

For the purposes of this Agreement, the phrase "Pigments and Dry Colors", subject to the additions and exceptions hereinafter set forth, shall mean:

a. Any inorganic coloring matter including white pigments; and

b. Any organic coloring matter made by forming insoluble metallic or weak acid salts of water soluble dyestuffs.

It is the intention of the parties hereto that the meaning of pigments and dry colors, as above stated, shall be interpreted with any additions and exceptions which may be necessary to continue substantially the present division of business between the Krebs Pigment & Chemical Company and the Grasselli Pigment Division on the one hand and other divisions of Grasselli and DuPont and/or its subsidiaries on the other hand, and shall be subject to such further additions and exceptions from time to time as may reasonably be necessary to provide for the manufacture and sale

of additional products to best advantage from a broad business standpoint.

Among such present exceptions are the following:

1. Alumina hydrate, zinc oxide and blanc fixe, now manufactured and/or sold by Grasselli, outside of its Pigment Division, incidental to its general chemical business;
2. Ceramic colors, now manufactured and/or sold by Roessler & Hasslacher Chemical Company, a wholly owned subsidiary of DuPont;
3. Certain dry colors, now manufactured and/or sold by the Dyestuffs Department of DuPont incidental to its manufacture and sale of organic dyestuffs;

Among such present additions are:

1. Certain organic dyestuffs, now manufactured and/or sold by the Grasselli Pigment Division incidental to its manufacture of pigments and dry colors.

II.

Grasselli, as hereinafter set forth, for a period of thirty (30) days from and after the date of this Agreement, shall have the right and privilege of investigating the assets, processes, patents, applications for patents in the course of preparation or filed, contracts and earnings of Commercial Pigments Corporation and American Ilmenite Corporation. Representatives of Grasselli shall be permitted to examine the processes as conducted in the plants of Commercial Pigments Corporation and Solvents shall place at the disposal of such representatives competent technical men to

fully advise Grasselli on all questions which may arise regarding said processes. Solvents shall furnish all information requested by Grasselli in the course of such investigation and Grasselli shall be given the opportunity to collect and check such information in all plants of Commercial Pigments Corporation and American Ilmenite Corporation.

III.

Solvents, as hereinafter set forth, for a period of thirty (30) days from and after the date of this Agreement, shall have the right and privilege of investigating the assets, processes, patents, Applications for Patents in the course of preparation or filed, contracts and earnings of Krebs Pigment & Chemical Company and Grasselli Pigment Division. Representatives of Solvents shall be permitted to examine the processes as conducted in the plants of Krebs Pigment & Chemical Company and Grasselli Pigment Division and Grasselli shall place at the disposal of such representatives competent technical men to fully advise Solvents on all questions which may arise regarding the said processes. Grasselli shall furnish all information requested by Solvents in the course of such investigation and Solvents shall be given the opportunity to collect and check such information in all plants of Krebs Pigment & Chemical Company and Grasselli Pigment Division.

IV.

Upon the completion of Grasselli's and Solvents' investigation, as aforesaid, or in any event not later than thirty (30) days from the date hereof, Grasselli and Solvents shall notify each other in writing either—

(a) that the assets and/or sales and/or mill costs are not substantially as represented herein and above set forth, or that the processes of the company so investigated infringe outstanding patents which, in the opinion of the party hereto making the investigation, would be held valid in the event of litigation, and that for that reason it does not desire to proceed with said plan of reorganization, or

(b) that they desire to proceed with the plan of reorganization hereinafter set forth.

If either party hereto notifies the other that it does not desire to proceed with said plan of reorganization for any reason set forth in (a) hereof, then this Agreement shall forthwith terminate, anything in this Agreement to the contrary notwithstanding.

V.

In the event Grasselli and Solvents notify each other, in writing, as aforesaid, that they desire to consummate said plan of reorganization in accordance with the provisions of this Agreement, then Grasselli and Solvents shall forthwith proceed to incorporate under the Laws of the State of Delaware, a corporation, the corporate name of which shall be ..... Company and which shall have a total authorized capital stock of Ten Thousand (10,000) shares without par value.

The Certificate of Incorporation of said ..... Company shall provide:

1. That at all election of Directors, each holder of Common Shares shall be entitled to as many votes as shall

equal the number of shares of stock owned or held by him multiplied by the number of Directors to be elected and any such stockholder may cast all of said votes for a single Director or may distribute the same among two or more Directors. It is agreed that the Board of Directors of said ..... Company shall consist of not less than seven (7) members. It is agreed, however, that the initial Board of Directors of said ..... Company shall consist of ten (10) members of which three (3) members shall be selected by Solvents.

2. That each stockholder shall have the preemptive right to subscribe to its proportionate share of any or all additional issues of stock of ..... Company, and of any and all securities convertible into such stock.

3. Any profit or loss, after allowance for all charges, including Federal taxes and such provisions for depreciation and other proper reserves as are allowed by the Federal income tax law of said ..... Company, shall be transferred to earned surplus account at the end of each month and any credit balance in this account shall be distributed quarterly in the form of dividends; it being the intent of the parties hereto that any additional capital required shall be provided by means other than the reinvestment of earnings.

4. That the foregoing provisions of the Certificate of Incorporation shall not be changed without the affirmative vote of at least 75% of the outstanding stock of said Company.

Exhibit 195

The By-laws of said..... Company, among other matters, shall provide that a majority of the Board of Directors shall constitute a quorum for the transaction of business.

All other provisions of the Certificate of Incorporation and By-laws of said..... Company shall be subject to the approval of Grasselli and Solvents.

It is agreed by the parties hereto that..... .....Company shall not borrow money from any stockholder without giving all stockholders a right to participate pro-rata.

VI.

Not later than fifteen (15) days after the date of incorporation of said..... Company Solvents agrees to cause American Ilmenite Corporation to transfer, convey and set over all its assets unto Commercial Pigments Corporation and thereupon Solvents shall cause Commercial Pigments Corporation to transfer, convey and set over unto said..... Company, subject to the provisions of Article VIII hereof, all its assets substantially the same as those shown on consolidated balance sheet of April 30, 1931, attached hereto marked Exhibit "B", except as such assets may have been or may be increased or decreased in the ordinary course of business since April 30, 1931, together with all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods and processes, trademarks, and goodwill of said Commercial Pigments Corporation.

Concurrently with the aforesaid transfer and conveyance by Commercial Pigments Corporation, Grasselli agrees

to transfer, convey and set over to said ..... Company, subject to the provisions of Article VIII hereof, all the assets belonging to Grasselli Pigment Division, and to cause Krebs Pigment & Chemical Company to transfer, convey and set over to said ..... Company all the assets belonging to said Krebs Pigment & Chemical Company, substantially the same as shown on consolidated balance sheet of April 30, 1931, attached hereto marked Exhibit "A" except as such assets may have been or may be increased or decreased in the ordinary course of business since April 30, 1931, together with all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods and processes, trademarks and goodwill of said Grasselli Pigment Division and Krebs Pigment & Chemical Company.

Each party hereto guarantees the payment of all accounts receivable transferred and assigned by it to ..... Company.

VII.

Upon the transfer to ..... Company of the properties, assets and business of Grasselli and Krebs Pigment & Chemical Company, as aforesaid, ... Company shall assume the liabilities of Grasselli Pigment Division and Krebs Pigment & Chemical Company, substantially the same as disclosed on the consolidated balance sheet of Grasselli Pigment Division and Krebs Pigment & Chemical Company, as of April 30, 1931, attached hereto marked Exhibit "A", except as such liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931; and

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upon the transfer to said ..... Company of the properties, assets and business of Commercial Pigments Corporation, as aforesaid, ... Company shall assume the liabilities of Commercial Pigments Corporation, substantially the same as disclosed on the consolidated balance sheet of April 30, 1931, of Commercial Pigments Corporation and American Ilmenite Corporation, attached hereto marked Exhibit "B", except as such liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931.

It is understood and agreed that ..... Company shall not assume any liability for patent infringement incurred by Grasselli Pigment Division and/or Krebs Pigment & Chemical Company and/or Commercial Pigments Corporation prior to the date of transfer to said ..... Company, or any other liability not specifically provided for herein, anything in this Agreement to the contrary notwithstanding.

DuPont hereby agrees to hold and save said ..... Company free and harmless from all liabilities of said Grasselli Pigment Division and/or Krebs Pigment & Chemical Company not specifically assumed by said ..... Company, as provided for in this Article.

Solvents hereby agrees to hold and save said ..... Company free and harmless from all liabilities of said Commercial Pigments Corporation and/or American Ilmenite Corporation not specifically assumed by said ..... Company, as provided for in this Article.

VIII.

It is the intent and purpose of this Agreement to so adjust the contributions of Commercial Pigments Corporation on the one hand, and Grasselli and Krebs Pigment & Chemical Company, on the other hand, to .... Company, that Commercial Pigments Corporation shall contribute thirty per cent. (30%) and Grasselli and Krebs Pigment & Chemical Company seventy per cent. (70%) of the net worth of ..... Company and that the net working capital, i.e., the difference between current assets and current liabilities in accordance with the attached balance sheets marked Exhibits "A" and "B", of said ..... Company shall equal Three Million Dollars ($3,000,000.00). It is therefore agreed that the parties hereto shall compare balance sheets as of July 1, 1931, and adjust working capital to accomplish such result.

It is agreed that from the consolidated assets of Commercial Pigments Corporation there shall first be deducted any sums appearing thereon for investigation of ore land and any sums appearing thereon for investment in Titanuite, Ltd., which shall be retained by Commercial Pigments Corporation, and there shall then be added the sums of One Hundred and Ninety-two Thousand, Five Hundred Dollars ($192,500.00) for purchased patents and Eighty Thousand Dollars ($80,000.00) allowance for Travancore investment over and above cost at which said investment is carried on the books of Commercial Pigments Corporation.

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TRANSCRIPT OF RECORD

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OCTOBER TERM, 1946

No. 89

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vs.

NATIONAL LEAD COMPANY, TITAN COMPANY, INC., AND E. I. DU PONT DE NEMOURS AND COMPANY, INC.

No. 90

NATIONAL LEAD COMPANY AND TITAN COMPANY, INC., APPELLANTS,

vs.

THE UNITED STATES OF AMERICA

No. 91

E. I. DU PONT DE NEMOURS AND COMPANY, INC., APPELLANT,

vs.

THE UNITED STATES OF AMERICA

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FILED APRIL 18, 1946.

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438	Letter from C. H. Rupprecht to John Allegaert.	Mar. 9, 1939	1823
439	Letter from C. H. Rupprecht to John Allegaert.	Nov. 21, 1939	1825
440	Letter from Z. Phelps to John Allegaert.	Aug. 5, 1940	1827
441	Letter from Manager to C. F. Kaegebehn.	Nov. 14, 1940	1829
442	Letter from C. F. Kaegebehn to C. J. Stopford.	Apr. 4, 1941	1830

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443	Letter from A. M. Stackhouse to C. F. Garesche.	Sept. 24, 1940	1832
444	Letter from C. F. Garesche to A. M. Stackhouse.	Sept. 27, 1940	1833
445	Letter from A. M. Stackhouse to C. F. Garesche.	Oct. 2, 1940	1834
446	Letter from Manager to A. M. Stackhouse.	Oct. 4, 1940	1835
447	Letter from A. M. Stackhouse to C. F. Garesche.	Oct. 29, 1940	1836
448	Letter from A. M. Stackhouse to C. F. Garesche.	Nov. 12, 1940	1838
449	Letter from Manager to A. M. Stackhouse.	Nov. 13, 1940	1839
470, 471, 472	Indexed After Exhibit 122a.		
475	Letter No. 1614 from L. E. Barton to J. L. Turner.	Jan. 8, 1934	1841
476	Letter from James E. Booge to L. E. Barton.	Feb. 19, 1934	1843
477	Letter from L. E. Barton to J. E. Booge.	Feb. 23, 1934	1844
478	Letter from C. H. Rupprecht to W. C. Beschorman.	Oct. 19, 1936	1846
479	Letter from W. C. Beschorman to C. H. Rupprecht.	Oct. 20, 1936	1847
480	Letter from G. Jebsen to William C. Beschorman.	Oct. 21, 1937	1848
481	Letter from C. H. Rupprecht to C. F. Garesche.	Nov. 5, 1937	1853
482	Letter from C. F. Garesche to C. H. Rupprecht.	Nov. 9, 1937	1855
483	Letter from G. Jebsen to William C. Beschorman.	Sept. 8, 1937	1856
484	Telegram from Jebsen to Garesche.	Dec. 21, 1937	1857
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486	Memorandum from Wm. Richter to F. Sparre.	Jan. 7, 1938	1860
487	Memorandum from J. L. Turner to G. F. Garesche.	Nov. 17, 1938	1862
488	Letter from J. E. Booge to C. F. Kaegebehn.	Dec. 4, 1939	1870
489	Letter from General Manager to C. F. Garesche.	Dec. 6, 1939	1872
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491	Memorandum from John P. Hancock to Z. Phelps.	Dec. 18, 1939	1876
492	Letter from F. J. Shirley to C. F. Garesche.	Jan. 3, 1940	1878

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495	Letter from C. F. Garesche to G. Jebsen.	Feb. 19, 1940	1898
496	Memorandum from F. J. Shirley to I. D. Hager.	Mar. 26, 1940	1901
497	Letter from C. F. Kaegebehn to G. Jebsen	Apr. 18, 1940	1926
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499	Letter from C. H. Rupprecht to Titanium Pigment Corp.	Apr. 24, 1940	1933
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501	Letter from C. F. Garesche to C. H. Rupprecht.	Apr. 26, 1940	1940
502	Letter from C. H. Rupprecht to National Lead Company—Titanium Division.	Apr. 29, 1940	1942
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506	Letter from C. F. Kaegebehn to G. Jebsen.	May 27, 1940	1948
507	Letter from G. Jebsen to C. F. Garesche.	Aug. 22, 1940	1952
508	Memorandum from John P. Hancock to C. H. Rupprecht.	Sept. 20, 1940	1975
509	Letter from C. H. Rupprecht to C. F. Garesche.	Sept. 24, 1940	1983
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514	Letter from McCarty to G. Jebsen.	Dec. 30, 1927	1998
515	Letter from S. J. Henrikssen to Evans McCarty.	Apr. 10, 1928	1999
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527	Letter from G. Jebsen to Evans McCarty.	Dec. 5, 1930	2033
528	Letter from G. Jebsen to Evans McCarty.	Jan. 16, 1931	2038
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It is further agreed that from the assets of Grasselli Pigment Division there shall first be deducted any inventory of Alumina Hydrate and Zinc Oxide, which shall be retained by Grasselli.

IX.

In consideration of and immediately upon the transfer and assignment by Commercial Pigments Corporation to ..... Company, of the properties referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Commercial Pigments Corporation Three Thousand (3000) fully paid and non-assessable shares of its Common Stock, without par value.

X.

In consideration of and immediately upon the transfer and assignment by Grasselli to ..... Company of the property referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Grasselli Four Thousand, Four Hundred and Ten (4410) fully paid and non-assessable shares of its Common Stock, without par value.

XI.

In consideration of and immediately upon the transfer and assignment by Krebs Pigment & Chemical Company to ..... Company of the property referred to in Articles VI and VIII hereof, ... Company shall issue and deliver to Krebs Pigment & Chemical Company, Two Thousand, Five Hundred and Ninety (2,590) fully paid and non-assessable shares of its Common Stock, without par value.

Exhibit 195

XII.

In the event ..... Company shall find it necessary to have additional instruments of conveyance or transfer in order more fully to assure its title to any of the properties to be conveyed to it as aforesaid, Grasselli, Krebs Pigment & Chemical Company and Commercial Pigments Corporation will, upon request, execute such instruments.

XIII.

Grasselli agrees within twelve (12) months after the date of transfer by Krebs Pigment & Chemical Company of its assets to said .....Company to cause the legal dissolution of said Krebs Pigment & Chemical Company.

Solvents agrees within twelve (12) months after the date of transfer by Commercial Pigments Corporation of its assets to said .....Company to cause the legal dissolution of said Commercial Pigments Corporation and American Ilmenite Corporation.

XIV.

DuPont and Grasselli each agrees to grant to said ..... Company so long as DuPont and/or any corporation owing or controlling, or owned or controlled by DuPont shall remain a stockholder in said ..... Company, and Solvents agrees to grant to said ..... Company, so long as Solvents and/or any corporation owing or controlling, or owned or controlled by Solvents shall remain a stockholder in said .....Company,

Exhibit 195

(a) the irrevocable, exclusive right and license, without payment of royalty or other consideration, to manufacture and sell, in the countries of North America (exclusive of Canada), Central America, West Indies and present possessions of the United States of America, Pigments and Dry Colors under any and all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods or processes which it now owns or may hereafter develop during said period or under which it now has a right to grant a license, directly or indirectly relating or pertaining to Pigments and Dry Colors; provided however, that such right and license shall be subject to any commitments made prior to the date hereof;

(b) the irrevocable, exclusive right and license, upon payment of a proportionate share of the purchase price or royalty, to manufacture and sell, in the countries of North America (exclusive of Canada), Central America, West Indies and all present possessions of the United States of America; Pigments and Dry Colors under any and all inventions, improvements, Letters Patent, Applications for Letters Patent, secret methods or processes which it may hereafter acquire by purchase, during said period or under which, during said period, it may hereafter acquire the right to grant a license, directly or indirectly relating or pertaining to Pigments and Dry Colors; provided, however, that such right and license shall be subject to any limitations imposed prior to date of acquisition.

It is agreed that said .....Company shall not manufacture or deal in any products or businesses other than Pigments and Dry Colors without the consent of all of its stockholders.

XV.

DuPont and Solvents agree, upon request of said ..... Company, to transfer and assign to said .....Company or its assigns, without cost, any or all interest, which it or they, or any of their wholly-owned subsidiaries now have in ilmenite ore-bearing lands.

XVI.

.....Company shall have the right, at any time, to request of any party hereto and/or its wholly-owned subsidiaries, specific services which, if furnished, shall be charged to said .....Company at actual cost plus appropriate Departmental overhead applicable thereto. It is understood and agreed that said ..... Company shall have the right to general advice and counsel of the officials and executives of the parties hereto and/or their wholly-owned subsidiaries without charge therefor.

XVII.

The parties hereto agree that ..... Company shall not purchase any material which it shall need, require or use in its business from Solvents and/or DuPont and/or its or their subsidiaries unless such materials to purchased shall be sold and delivered to .....Company at a price which shall not be greater than the price which either Solvents or DuPont and or its or their subsidiaries shall offer or receive from its or their most favored customers for similar quantities; it is further agreed by the parties hereto that .....Company shall sell the products and/or materials manufactured or produced by it to Solvents and/or DuPont and/or its or their subsidiaries at a price not less than that offered to its most favored customers for similar quantities.

Exhibit 195

XVIII.

Pigments may at any time transfer all or any part of its holdings of capital stock of the .....Company to Solvents or any corporation owned or controlled by Solvents, and Grasselli and/or Krebs Pigment & Chemical Company may at any time transfer all or any part of their holdings of such stock to DuPont or any corporation owned or controlled by DuPont.

Except as hereinabove provided, neither Solvents nor any corporation owned or controlled by it shall, so long as any such stock is held by DuPont or a corporation owned or controlled by it, sell or transfer any such stock without first giving DuPont, by notice in writing, a period of thirty (30) days in which to purchase or acquire such stock at a price not greater and on terms not less favorable than those fixed by a bona fide offer from another, or pledge any such stock to secure a loan without first giving DuPont by notice in writing a period of thirty (30) days in which to make a loan secured by such stock of an amount not greater and on terms not less favorable than those fixed by a bona fide offer from another; provided, however, that any such pledge shall always be subject to the right of DuPont to purchase such stock in the manner herein provided.

Except as hereinabove provided, neither DuPont nor any corporation owned or controlled by it shall, so long as any such stock is held by Solvents or a corporation owned or controlled by it, sell or transfer any such stock without first giving Solvents, by notice in writing, a period of thirty (30) days in which to purchase or acquire such stock at a price not greater and on terms not less favorable than those fixed by a bona fide offer from another, or pledge

any such stock to secure a loan without first giving Solvents, by notice in writing, a period of thirty days in which to make a loan secured by such stock of an amount not greater and on terms not less favorable than those fixed by a bona fide offer from another; provided, however, that any such pledge shall always be subject to the right of Solvents to purchase such stock in the manner herein provided.

All certificates for said stock shall have endorsed thereon a statement or notice setting forth or summarizing the foregoing provisions of this Article XVIII.

XIX.

In the event that the plan of reorganization aforesaid shall be consummated by the parties hereto then, in such event, neither Solvents nor DuPont nor any corporation owned or controlled by either of them shall, prior to July 1, 1946, directly or indirectly engage, except through ..... Company or its successors and assigns, in the manufacture and/or sale of Pigments and Dry Colors, in the countries of North America and Central America, West Indies and within all present possessions of the United States of America.

XX.

The benefits and obligations of this Agreement shall extend to and be binding upon the respective successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed, in triplicate, by their respective officers thereunto duly authorized and their corporate

seals to be affixed, duly attested by their secretaries, the day and year first above written.

THE GRASSELLI CHEMICAL COMPANY

By T. S. GRASSELLI
President

Attest:
O. M. HOOK
Secretary

COMMERCIAL SOLVENTS CORPORATION

By W. D. TIGHNOR
President

T. F. CARTY
Asst. Secretary

E. I. DU PONT DE NEMOURS & COMPANY

By W. F. HARRINGTON
Vice Pres.

M. D. FISHER
Asst. Secretary

Exhibit 196

Copy to T. S. Grasselli
C. H. Rupprecht

To: F. Sparre, Director — Serial No: D-850

From: W. J. Beadle — July 8, 1931

Commercial Pigments Corporation

In accordance with Agreement of Reorganization entered into between Grasselli Chemical Company, Commercial Solvents Corporation and E. I. du Pont de Nemours & Company, dated July 7, 1931, examination has been made of the assets and business of the Commercial Pigments Corporation and the findings of the various investigating groups are presented in the following reports attached hereto as exhibits.

Exhibit	Date of Report	Author of Report	Subject Matter of Report
A	June 25	A. C. Nielsen	Verification of assets, liabilities, net sales and cost of sales.
B	July 1	E. G. Ackart	Plant appraisal
C	June 24	Z. Phelps J. E. Booge L. A. Haupt	Plant capacity and operating conditions
	July 2	Z. Phelps	Mill Cost
D	June 30	C. H. Biesterfeld	Patent situation with respect to validity of patents infringed.
	July 3	D. W. Jayne	Summary of above opinion
E	June 24	H. Bradshaw	Patent situation with respect to cost of avoiding valid patents
F	June 22 June 29	T. R. Hanley	Legality of contracts
G	July 2	C. H. Rupprecht	Contracts
H	June 30	T. R. Hanley	Travancore investment

Exhibit 196

The purpose of this report is to review the above findings to determine whether they modify to an appreciable extent the equities which were considered in negotiating the Agreement of Reorganization.

ASSETS:

Solvents represented in the Agreement of Reorganization—

"(a) That the assets and liabilities of Commercial Pigments Corporation and American Ilmenite Corporation are substantially the same as those shown on the consolidated balance sheet of April 30, 1931, attached hereto and marked Exhibit "B", except as such assets and liabilities may have been or may be increased or decreased in the ordinary course of business since April 30, 1931."

Plant investment has been checked by the Engineering Department as reported in Exhibit "B" and all other assets have been verified by the Treasurer's Department as reported in Exhibit "A". Assets have been found to be substantially as represented, except that the plant account includes, as pointed out by the Engineering Department, approximately $63,000 for obsolete Lee attack equipment and obsolete Oliver filter. Mr. Phelps (Exhibit "C") mentions several additional items which he considers obsolete but only two of these are carried on Commercial Pigments' books, namely, an ilmenite drier and a small Manning boiler which have a combined value of approximately $11,000. This makes a total of $74,000 which is probably the maximum amount which can be claimed for obsolete equipment in the Baltimore plant. On a 70-30 basis, the Grasselli Com-

pany would be entitled to $173,000 for obsolete equipment to offset these Baltimore items. The chamber acid plant at Newark, which is not operating at the present time, is carried on the Grasselli books at about $213,000 and representatives of the Commercial Pigments Corporation have taken the position that this should also be considered as an obsolete unit. It is quite likely that an independent appraisal of the Newark and Newport plants would reduce the net value at which these plants are carried on our books by an amount more than sufficient to offset, on a 70-30 basis, the obsolete equipment at the Baltimore plant.

NET SALES & COST OF SALES:

Solvents represented in the Agreement of Reorganization—

"(b) That for the four (4) months ending April 30, 1931, the net sales of titanium oxide was approximately $303,000"

"(c) That for the month of April 1931, the total mill cost of sales of titanium oxide was approximately $70,270 with sales of approximately 629,300 pounds."

Mr. Nielsen found these figures to be substantially correct as reported on pages 5 and 6 of Exhibit "A".

Development Department report S-2402, submitted on February 18, 1931, showed in Exhibit "H" estimated sales for the year 1931 of 3,130 tons of TiO_2. Actual sales for the first six months of 1931 were 1,587 tons as shown in Exhibit "I" attached hereto.

Exhibit 196

PLANT CAPACITY:

Solvents represented in the Agreement of Reorganization—

"(d) That, in the opinion of Solvents, its Baltimore plant has an annual capacity of approximately 7200 tons of titanium dioxide—"

Our representatives found that the Baltimore plant has at various times produced 20 tons of calcined product daily and the maximum daily production thus far has been 21.5 tons of calcined product. It is Mr. Phelps' opinion, page 2 of Exhibit "C", that in order to produce continually at the rate of 20 tons of calcined product per day, it would be necessary to increase the capacity of the raw pigment filter at a cost of about $5000 and to add two spare centrifuges at a cost of about $7000. Representatives of Commercial Pigments do not agree with Mr. Phelps that this $12,000 expenditure would be needed for continuous production. The amount of money involved is so small that this point can probably be ignored, particularly since the additional equipment would not be needed for some time.

While the plant has been operated at the rate of 20 tons of calcined product per day, it cannot produce this amount of finished pigment because the finishing driers do not have sufficient capacity. It is Mr. Phelps' opinion, page 2 of Exhibit "C", that these driers have a capacity in continuous production of only 11 to 13 tons per day and that an expenditure of approximately $40,000 would be required to remove one drier unit and install a larger one to give the 20 ton capacity. Representatives of Commercial Pigments agree that the driers do not at present have a capacity of 20 tons but it is their opinion that this capacity can be reached by making alterations in the present driers and by

changing the drying procedure without going to the expense of tearing out a complete unit and installing a new one. It is agreed that the Baltimore plant cannot produce 7200 tons of finished titanium oxide annually, without some expenditure for additional equipment which is estimated by Mr. Phelps at $52,000. There is obviously no reason for making any of this expenditure until the additional capacity is needed and from the standpoint of 70-30 participation in ownership, it makes no difference whether the expenditure is made before or after consolidation.

MILL COST:

Solvents represented in the Agreement of Reorganization—

> "(d) That, in the opinion of Solvents, its Baltimore plant.....can produce titanium dioxide, when operating at capacity, at a total mill cost not exceeding eight (8) cents per pound based on average cost of ilmenite for the first five (5) months of 1931".

Mr. Phelps states in his supplementary report, Exhibit "C", that when the Baltimore plant is operated at the rate of 20 tons daily, it should be possible to produce ground TiO_2 in packages at approximately 9¢ per pound as compared to 8¢ per pound cited in the representation.

Development Department report S-2402, submitted on February 18, 1931, showed in Exhibit "G" an estimated mill cost of 7.65¢ when operating at the rate of 21.5 tons daily. This corresponds to a cost of 8¢ when operating at the rate of 20 tons daily. Estimate of potential earning power of Commercial Pigments Corporation (Exhibit "Q"

of S-2402) was based on a mill cost of 9.24¢ per pound when operating at the rate of 14 tons daily.

The primary reason for fixing participation in the new company at 70-30 was that a forecast of potential earning power showed that earnings would divide approximately on this basis. Exhibit "H" of Development Department report S-2402 showed potential earnings as follows:

Grasselli and Krebs	$ 1,316,200	69.9%
Commercial Pigments	566,500	30.1
	$ 1,882,700	100.0%

The above earnings for Grasselli were based on a lithopone production of 73,800 tons annually and a mill cost of 3.05¢ per pound. The Philadelphia plant has subsequently been declared idle and the lithopone capacity remaining at Newark and Krebs is only 65,000 tons annually; at the same time, however, mill cost has been reduced to 2.55¢. If Grasselli earnings are re-figured on the basis of producing 65,000 tons of lithopone at a mill cost of 2.55¢, the forecast of earnings for Grasselli is increased from $1,316,200 to $1,721,000. The forecast of earnings for Commercial Pigments Corporation was based on producing 5,050 tons of TiO_2 (14 tons daily) at a mill cost of 9.24¢ per pound. If this is refigured on the basis of producing 7200 tons of TiO_2 at a mill cost of 9.0¢ per pound, Commercial Pigments earnings are increased from $566,500 to $849,000. On this new basis, potential earning power would divide as follows:

Grasselli and Krebs	$ 1,721,000	67.0%
Commercial Pigments	849,000	33.0%
	$ 2,570,000	100.0%

This 67-33 division of earnings is based on operating all three plants at capacity. It is very questionable whether the lithopone plants will be operated at capacity when it becomes necessary to operate the Baltimore plant at capacity, and the future tendency will undoubtedly be to decrease Grasselli's contribution of earnings to something less than 67% and to increase Commercial Pigments' contribution to something more than 33%. Consequently a 70% participation in future earnings appears to be very favorable to Grasselli.

PATENT SITUATION:

Solvents represented in the Agreement of Re-organization—

> "(e) That the processes of Commercial Pigments Corporation do not infringe any outstanding patents, which in Solvents' opinion, would be held valid, if litigated."

It is the opinion of the du Pont Legal Department, Exhibit "D", that the Commercial Solvents Corporation is infringing the following patents;

Fladmark	1,288,863	Valid
Jebsen	1,333,819	"
Wrigley & Spence	1,338,473	Validity doubtful
Olsen & Forland	1,333,849	Invalid
Goldschmidt	1,348,129	"

All of the above patents are owned by the National Lead Company.

Fladmark covers hydrolysis of a concentrated solution by heating. The Central Chemical Department estimates, Exhibit "E", that if it should become necessary to avoid this patent by hydrolyzing in a dilute solution, there would be required additional cooling tanks prior to filtration and some additional filtering capacity at a total cost of not exceeding $25,000. The only effect on mill cost would be the possible loss of acid credit which at present is negligible and which has been estimated as being ultimately 7 tents of a cent per pound of TiO_2. The Chemical Department summarizes the situation—"it seems to be very desirable to retain the concentrated hydrolysis procedure but there is a way out without undue additional expense either for equipment or for operation".

Jebsen covers the amount of acid used in attack. The Chemical Department states, Exhibit "E", that it should not be particularly difficult to avoid Jebsen and, in the long run, it would mean only the extra cost of the additional acid which would amount to about one-third of a cent per pound of TiO_2.

The cost of avoiding valid patents might therefore be about 1¢ per pound of product but there seems to be no reason for changing the present procedure unless notice is first served on the new company by the National Lead Company.

CONTRACTS:

In addition to checking the foregoing representation by Solvents, the Development, Legal and Operating Departments have reviewed the following Commercial Pigments contracts which would be assumed by the new company:

Exhibit 196

Dated	Expires	Agreement With	Subject Matter
Mar. 24, 1927	Jan. 1, 1954	(French Company) (Joseph Blumenfeld)	Blumenfeld process
Dec. 17, 1929	"	(Joseph Blumenfeld (French Company)	" "
Mar. 7, 1929	12 mos. notice	R. T. Vanderbilt Co.	Sale of TiO_2
June 25, 1929	12 mos. notice	Travancore Minerals Co. Ltd.	Purchase of ilmenite
Nov. 13, 1929	3 mos. notice	St. Wholesale Phosphate & Acid Works	Purchase of acid
Oct. 1, 1930	Sept. 30, 1931	Mexican Petroleum Corp.	Purchase of fuel oil

With the exception of the Vanderbilt contract, none of these contracts are assignable and it will therefore be necessary to get the consent of the respective parties to assignment to the new company. There is no legal objection, Exhibit "F", to taking over any of these contracts with the exception of the ilmenite sales contract which should have one minor revision before assignment. Also it would be desirable, for the sake of clarity, to draw up a new Blumenfeld license agreement replacing the two present agreements. Representatives of the Commercial Solvents Corporation have expressed the opinion that these changes can be made very readily.

In addition to the foregoing contracts, the new company will take over the following contracts under which Commercial Pigments granted non-exclusive licenses to manufacture titanated lithopone under the O'Brien patents.

Exhibit 196

Dated	Expires	Agreement With
July 15, 1929	After Dec. 31, 1932 on 6 mos. notice	Grasselli Chemical Company
Aug. 23, 1929	"	Krebs Pigment & Chemical Co.
Aug. 23, 1929	"	Glidden Company
Dec. 1, 1929	"	United Color & Pigment Co.

These license contracts are all assignable. The Glidden and United contracts have not been examined but representatives of Commercial Pigments have stated that these two licenses are identical with the Grasselli and Krebs licenses.

TRAVANCORE INVESTMENT:

Copies of the Travancore Minerals Company, Ltd., Memorandum of Association, Articles of Association, Lease and other documents have been reviewed by the du Pont Legal Department with particular reference to Commercial Pigments Corporation position as a minority stockholder in the Travancore Minerals Company. Mr. Hanley's report is attached as Exhibit "H".

Travancore Minerals Company capitalization and Commercial Pigments share therein is as follows:

	Total Outstanding	Commercial Pigments Holdings
6% Prior Lien Debentures	£20 000	£15,000
5% Debentures	£13,989	—
7% Preference shares	35,000 sh.	—
Ordinary shares	35,000 "	4,500 sh.
"A" shares	23,320 "	17,490 "

Paragraph 62 of the Articles of Association provide that Preference, Ordinary and "A" shares vote share for share so that Commercial Pigments has 23.6% of the vote as follows:

Exhibit 196

	Total Outstanding	Commercial Pigments Holdings
7% Preference shares	35,000 sh.	—
Ordinary shares	35,000 "	4,500 sh.
"A" shares	23,320	17,490 "
Total	93,320 "	21,990 "
	100%	23.6%

A special resolution passed at an Extraordinary General Meeting of the Company on October 10, 1928, provided that all profits distributed as dividends shall go to the "A" stockholders so long as the amount of 6% prior lien debentures outstanding shall exceed £13,989 and that ⅔rds of profits distributed as dividends shall go to the "A" shareholders when the amount of 6% Prior Lien Debentures outstanding does not exceed £13,989. At the present time there are £20,000 6% Prior Lien Debentures outstanding; consequently, Commercial Pigments Corporation now has an equity of 75% in any earnings available for dividends after providing interest on both classes of Debentures and after providing sinking fund for both classes of Debentures as provided in Paragraph 110-A of the Articles of Association:

	Total Outstanding	Commercial Pigments Holdings
"A" Shares	23,320	17,490
	100%	75%

After the amount of 6% Prior Lien Debentures outstanding has been reduced to £13,989 or less, Commercial Pigments will have an equity of at least 50% in any earnings available for dividends after providing for interest on both classes of Debentures and after providing sinking fund for both classes of Debentures as provided in Para-

graph 110-A of the Articles of Association. Under these conditions, Commercial Pigments will be entitled to 50% (75% of ⅔rds) of earnings through its holding of "A" shares, and in addition thereto it will be entitled to further earnings through its holding of Ordinary shares in case the earnings available (one-third of total) to preference and ordinary shares are more than sufficient to pay 7% non-cumulative dividend on preference shares.

CONCLUSION & RECOMMENDATION:

It is believed that the detailed examination of the business of Commercial Pigments Corporation has shown that the basis of consolidation set forth in the Agreement of Reorganization dated July 7, 1931, is equitable, and it is therefore recommended that the Grasselli Chemical Company notify Commercial Solvents Corporation, as provided in Article IV of the agreement, that it desires to proceed with the plan of re-organization.

Approved by:

Prepared by:

W. J. BEADLE

Exhibit 196

EXHIBIT "B"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
ENGINEERING DEPARTMENT

July 1, 1931

Mr. W. J. Beadle, Asst. Dir.
Development Department

DEVELOPMENT DEPARTMENT—D-1353

Supplementing and revising our appraisal sent you on June 25 in reference to the Baltimore Plant of Commercial Pigments Company, would advise that a summary of our figures based on reproduction cost exclusive of the two wharves and the land—but including a figure of $58,300 known as Construction Fee and included on their books—

totals	$1,300,000
The estimated valuation of the wharves	45,000
3.4 acres of Land, based on Mr. Warner's valuation given us today	45,900
Total	$1,390,900

We wish to call to your attention that the above figures do not include the following:

Obsolete Lee Attack Equipment (from their Mr. Chase 6/30/31)	$50,000
Obsolete Oliver Equipment	13,000
Total	$63,000

Exhibit 196

The book value of plant as presented to us as of June 1, 1931, is $1,534,941. This includes land, wharves, etc. If we deduct from this figure the $63,000 for the obsolete Lee and Oliver equipment, we derive a figure of $1,471,941, which is comparable to our appraised valuation of $1,390,900, or a discrepancy of $81,041. You will note in the above figures that we have changed the valuation of the land from $10,000 per acre to $13,500 which is Mr. Warner's best guess, as of today. Cost of the obsolete Lee attack equipment was changed from $96,767 to $50,000 which is the figure agreed upon by Mr. Chase in your office yesterday.

In view of the fact that this plant is not equipped with sprinklers and is at the present time dependent on the United States Industrial Alcohol Company's system for fire protection, the figure of approximately $35,000 would have to be expended to bring this plant up to du Pont standards, comparable with the Meadows Plant, for instance. This $35,000 would cover the necessary sprinklers, storage tank, fire pump and connections, etc.

In making this appraisal, our men were very much impressed with the housekeeping, up-keep painting and general all-around good condition of the buildings and equipment existing in this plant.

(S) E. G. ACKART
CHIEF ENGINEER

EXHIBIT "B"

Exhibit 196

EXHIBIT "C"

COPY

June 24, 1931

INSPECTION OF COMMERCIAL PIGMENTS' PLANT AT BALTIMORE

As arranged Z. Phelps, J. E. Booge and L. H. Haupt met Major T. P. Walker and Mr. W. I. Nevius in Baltimore on the 23rd and made an inspection of their plant.

Commercial Pigments people were extremely free with all information and considerable data was voluntarily given us. However, in this report we will only cover certain items which are of special interest in connection with the pending negotiations.

Plant

Equipment in general was found to be in good operating condition. In fact it was evident that the plant was dressed up since considerable of the equipment has been painted within the last three weeks. In several steps of the operation the units are small and tend toward an increase in installation and operating costs. We believe that a newly constructed plant of equal capacity could be erected at below their present book value.

We found the following equipment not being utilized, and if this has been included in the plant appraisal it should be questioned because these items are obsolete and have no prospect of being used at a future time.

(1) Lee Attack Pans have been made obsolete by a new installation of three Steadman Attack Pans. These new at-

tack pans provide considerable excess capacity for this particular step in the operation. (2) An Acid Concentrating unit composed of two towers was installed at the time the original plant was built, and has not been used because it could not be operated. (3) An Ilmenite Dryer Unit was originally installed. Since the plant has been successfully using strong sulphuric acid, the pre-heating of the Ilmenite is not necessary. (4) Four Gas Burners have been made obsolete due to a change in the method for heating the attack pans. (5) A small Manning Boiler which is a separate unit in the boiler plant, together with the stack for same (the stack being in bad repair) is obsolete and we see no prospects for it ever being used. (6) A small 4 ft. x 4 ft. Oliver Filter is not being used. This was originally installed for experimental purposes and we understand is subject to return to the Oliver Company pending settlement of the claim of $13,000.00 against the Oliver Company for a Sweetland Filter which was previously returned. (7) There are two Dorr Classifiers (one new and the other old) which are not installed and we see no immediate use for them.

Capacity

It is our opinion that the plant, as equipped at present, cannot produce 7200 tons a year of finished TiO_2.

The question of the percentage of ground and unground pigment to be sold has a decided bearing on the output. The tendency seems to be toward increased sales of the ground pigment, which now represents about 85% to 90% of total. When ground the pigment passes through the wet grinding system and finished dryers, and the finished dryers cannot regularly turn out over 11 to 13 tons

per day. This unit we consider the "neck of the bottle" as regards capacity.

In order to increase the capacity to 20 tons per day, one of the present Gordon-Davis Dryers will probably have to be removed and replaced by a new filter-dryer unit estimated to cost $40,000.00.

We estimate that the capacity of the raw pigment filter will not permit the regular production of more than 16 to 18 tons per day. This we estimate could be increased to 20 tons by the expenditure of $5,000.00. We also believe that the capacity of the four centrifuges now installed is not ample to regularly produce 20 tons of TiO_2 per day. There is no spare centrifuge, and with proper washing of the copperas, we believe the capacity of this unit for regular operation will not exceed 15 to 16 tons per day. Two additional machines costing about $7,000.00 would be needed to bring the capacity up to 20 tons per day. The total expenditure necessary to attain an output of 20 tons TiO_2 per day regularly, is estimated to be $52,000.00.

The plant is located on very high price water front property. However, the water facilities at the plant are not used in bringing in the Ilmenite, Sulphuric Acid or Oil. What this really means is that the plant could be in another location on much lower price ground and obtain their raw materials at no higher costs. Due to the restrictions against dumping waste materials into the Curtis Bay, it is necessary for the plant to dispose of the copperas and muds amounting to approximately 4 tons per ton of finished TiO_2 by loading same on a bar barge which is lightered away from the plant. The cost for disposing of the by-product (not including the expense for putting the material on the barge) is 80 cents per ton. This expense penalized finished pigment cost about 16 cents per hundred pounds.

We do not consider the operations as a whole to be hazardous if proper safety precautions are taken. It will be necessary to install quite a number of additional guards and make miscellaneous changes to bring the plant up to the Du Pont safety standards.

The plant is not sprinkled and is dependent upon the adjoining alcohol plant for water supply for fire purposes.

The existing buildings occupy practically all of the four acres of ground and it is advisable to recognize that any large expansion of the plant on the present site will be impossible. At the present time a portion of the stock of Ilmenite is stored on nearby property because of lack of space, and this involves an extra handling cost.

Inventories

Miscellaneous Stocks. These stocks are kept in very orderly fashion and apparently do not include any appreciable amount of obsolete items.

Raw Materials. The only large item is the stock of Ilmenite which is estimated to be about one and one-half year's requirements. We were assured that this Ilmenite is all of standard quality, running 52% to 53% TiO_2 content.

Finished Product. The record at the close of May shows a total of 814,000 pounds of finished product, and included in this amount is 262,000 pounds of sweepings. These sweepings are an accumulation from operations over a long previous period (in fact ever since the plant has started up). The value of these sweepings is extremely questionable.

The stock of finished product of standard quality appears to be in good condition, and from their records it

appears that all of this material now on hand has been manufactured since March 1, 1931. We have been assured that all of the standard stock is of good quality and is saleable to any of their existing customers.

We wish to point out that the average book value of the standard quality finished TiO_2 is considerably higher than the present cost for producing this material.

Quality

The chemical control procedure was checked over and it it adequate to keep the quality of their product uniform. The records of tests on all packed batches since the new equipment was installed were inspected and the quality and uniformity of the packed material is satisfactory. It is believed that the operation is sufficiently standardized so that good quality TiO_2 can be regularly produced. From the inspection of the sample reports it appears that Commercial Pigments' TiO_2 is slightly better in color than the National Lead's product, however, it is approximately 10% inferior in strength.

We estimate that the quantity of sweepings now being produced will amount to between 1% and 2% of the total output.

Sub standard TiO_2 when made is blended in with regular production.

Costs

Since costs are compiled in their New York Office, the cost statements are the same as the figures previously submitted. The lowest cost obtained to date is for the month of May, 1931, which shows a full plant cost for the ground TiO2, packed in barrels of $.09064 per pound.

Exhibit 196

It should be clearly understood that this nine cent cost does not include several items which should be taken into account when establishing a mill cost. Furthermore, this includes no depreciation charge. Mr. Neilson clearly understands what items have not been included in this cost. It is believed that by Commercial Pigments' method of accounting, the nine cent cost as established for May can be reduced to at least eight cents when the plant is equipped and operated at a production rate of 20 tons per day. We would expect that by our method of accounting, namely when including all of the expenses which should properly go into cost, our mill cost figure will be about two cents per pound higher than the figures shown by Commercial Pigments' cost statements. This would mean that when operating the plant at the 20 ton per day rate, we would expect to obtain a cost of not higher than ten cents per pound.

Apparently the costs and profit and loss sheets of this pigment operation are being favored in regard to some charges, for example, only $719.00 for Research Expense has been charged during May, and only $630.00 included to cover New York Office Expense. Neither one of these items are in the plant cost. No charge has been made against the Pigment Company for the research work on TiO_2 being carried on at Terre Haute.

Repairs (labor and materials) for the past two months has averaged about $8100.00 per month. Based on May production, repairs, which are included in costs, amount to 85 cents per hundred pounds of TiO_2. The fact that there is so much equipment which is practically new, leads us to believe that repairs at a later time can be expected to be higher than at present.

Whereas 4% to 5% depreciation (covering obsolescence, etc.) is considered proper for a lithopone plant, we

believe that due to the TiO2 operations being relatively new and not standardized to the extent of a lithopone operation, that a depreciation rate of 8% to 10% should be applied.

The over all yield of packed TiO_2 based on TiO_2 in the Ilmenite is 70%-75%.

The May performance of the plant in respect to costs, yields, quality and output is more favorable than for any previous month since the plant began operations.

Production

The records show that in the month of May, the production was 955,011 pounds (15.4 tons average per day), which is the largest quantity of TiO_2 produced to date by this plant.

ZP:BM

(S) Z. Phelps
J. E. Booge
L. H. Haupt

Exhibit 196

EXHIBIT "C"

COPY

Newark, N. J.
July 2, 1931

Mr. W. J. Beadle, Asst. Director
Development Department,
E. I. du Pont de Nemours & Co.
Wilmington, Delaware

ESTIMATED COSTS FOR TiO_2

The cost estimate worked out on June 29th in conjunction with Mr. Chase and yourself indicates that when the Commercial Pigments Plant at Baltimore attains an output of 620 tons (31 days x 20 ton) per month, the finished ground TiO_2 in packages can probably be produced at approximately $0.09 per pound.

Commercial Pigments Company represents that its May 1931 cost figures are correct and we have used their May cost sheets as a basis for our estimate.

In May they produced 753,709# of ground TiO_2 put up in packages at a cost of $0.09064 per pound, however, their cost sheet does not include Depreciation, as well as some other items which under our accounting procedure would go into Cost. When the plant produces at the rate of 1,240,000# per month, the May performances, when adjusted to this higher rate of production, shows an estimated cost of $0.093 per pound, after we include the following additional items:

Exhibit 196

ITEMS (see P.S.)			Per Month
1	Depreciation	—	$ 7,500
2	Extra cost-waste disposal	—	200
3	Research	—	2,000
4	Main Office Expense — Chargeable to Plant	—	630
5	Additional Repairs	—	900
6	Plant Office Expense	—	3,477
7	Service Department	—	3,614
8	Sweepings (no credit allowed)	—	777
	TOTAL	—	$19,098

We have assumed that over a future period of time it will be possible to effect economies and improvements to obtain better results than Commercial Pigments are getting at present and based on this assumption, we have arbitrarily reduced the estimated cost of $0.093 to the flat $0.09 cost per pound figure.

We estimate roughly that when operating at the 20 ton per day rate, that under the duPont cost accounting system, which will include all items properly applying to Cost, our cost will be approximately 1½¢ per pound more than the cost which would be shown by Commercial Pigments under their present method of arriving at the plant cost for the finished ground TiO_2 in packages.

ZP:KW (S) Z. PHELPS

EXHIBIT "C"

Exhibit 196

P. S.

1. In the month of May 1931 no Depreciation was charged against Cost or Profit & Loss by Commercial Pigments. This item must necessarily go into our plant costs and we have used the total value of $1,500,000 at a rate of 6% in arriving at the charge of $7,500 per month.

2. The May cost for waste disposal appears to be lower than it should be and for this reason $200 has been added.

3. In May Commercial Pigments show a charge of $720 for Research which is deducted from their Profit & Loss statement and is not applied against Plant Cost. We have assumed a research charge of $2,000 per month as a minimum, however, we believe that with the urgent need for an extended TiO_2 pigment; as well as other work during the first year or so, it is very probable that the research program which will later be authorized by the directors of the new company may incur a monthly expenditure of considerably larger than the amount of $2,000 which we have assumed. Under our cost accounting system the Research expense will be included in the cost of the finished product.

4. Commercial Pigments show a charge of $630 for their New York Office expense; this item, however, is in the Profit & Loss sheet and not in the Plant Cost. Under our proposed new set-up the main office will perform certain definite services for the plant which are properly chargeable to plant cost and we have assumed that our expense will be the same as Commercial Pigments' present New York Office expense.

5. During the past two months Repairs (labor and material) charged into costs amount to approximately $8,100

per month. We believe that when the equipment is pushed to obtain the higher output and the equipment becomes older, replacements and maintenance will be more severe and for this reason we have added an additional $900. On this basis it is assumed that the average cost for repairs will be $9,000 per month when the plant has an output of 620 tons per month at a future time.

6 & 7. The figures used are the same as shown by Commercial Pigments for the month of May. Commercial Pigments, however, charge out these expenses on their Profit & Loss sheet whereas we would include them in our Plant Cost. It is possible that we may be able to make a small reduction in these expenditures at a later time.

8. The sweepings are now set up at a value of 4¢ per pound and credited to Cost, and until such time as we have a market for this product, the sweepings should be put in at no value. The May costs received a credit of $777 based on sweepings produced and valued at 4¢ per pound. We have assumed that with greater efficiency the per cent of sweepings in relation to finished product can be reduced, therefore, we have assumed that when the plant obtains an output of 620 tons per month, the quantity of sweepings produced will not be any greater than the amount which actually resulted from their May operations.

(S) Z. PHELPS

Exhibit 196

EXHIBIT "D"

COPY

July 3, 1931

TO: F. SPARRE, DIRECTOR

FROM: D. W. JAYNE

PATENT SITUATION—COMMERCIAL PIGMENTS PROCESSES

The attached opinion of C. H. Biesterfeld with respect to patents infringed by the above may be condensed as follows:

Fladmark	1,288,863	— Valid
Jebsen	1,333,819	— Valid
Wrigley & Spence	1,338,473	— Doubtful validity
Olsen & Forland	1,333,849	— Invalid
Goldschmidt	1,348,129	— Invalid

It should be said, however, in connection with every one of these patents that a clear cut decision seems impossible. There is evidence and there is argument for and against validity and invalidity of all of these patents and Mr. Biesterfeld's conclusions have been drawn after weighing pros against cons and I think we should remember this in connection with the above brief tabulation of his conclusions. I think it is safe to assume that the three patents which he deems invalid could not be sustained by the patentee because of the method used by Biesterfeld in arriving at his conclusion which required rather strong evi-

dence of anticipation before he has been willing to admit invalidity. On the other hand the two patents which he believes are valid are not unquestionably so, and it would appear that there is a good chance that they would be declared invalid, but without the strong evidence he has concluded them to be valid.

The report also brings up a new case of infringement —Rossi & Barton patent 1,196,030. I understand this is of no importance as any change in Commercial Pigments' processes to avoid Jebsen and Fladmark will also avoid this patent and in any event it only has two more years to run.

(S) D. W. JAYNE

DEVELOPMENT DEPARTMENT

DWJ:M

EXHIBIT "D"

Exhibit 196

Noted
D.W.J.
Pages 4, 12 & 13
revised from original
P. 14-added

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

DR. FIN SPARRE June 30, 1931.

OPINION ON PATENT SITUATION
OF COMMERCIAL PIGMENTS' PROCESS

In this opinion the Fladmark, Jebsen, Wrigley & Spence, Olsen & Forland, and Goldschmidt patents are considered from the standpoint of infringement and validity. Product patents are not considered, inasmuch as we are dealing here with the manufacture from ilmenite of titanium oxide, and we are not considering the pigments or compositions that may be made therefrom. The various product patents in this art have previously been examined.

At the outset, I call attention to the general question of estoppel. Commercial Pigments has been operating for over three years and during that time has not been specifically accused of infringement. I had a conversation in Baltimore with Mr. Chase on this point, and he stated that there has been some general conversation with National Lead Company but that no specific charge of infringement has been brought against Commercial Pigments. Mr. Chase did not state that National Lead Company had been apprized of the exact character of the Commercial Pigments' process. As long as that is the fact, no estoppel would exist against them. I am not sure whether the fact

situation is such that Commercial Pigments could plead an estoppel against any of the patent owners, but at this writing I am calling attention to it because it will be a very important consideration in our position if National Lead Company actually has known of the situation and has failed to bring suit for over three years.

FLADMARK No. 1,288,863

The process of Commercial Pigments may be held to infringe this patent. There has been a question raised regarding infringement upon the ground that a mere heating of a titanium solution will not necessarily produce a precipitate as evidenced by the heating in the vacuum apparatus at the Commercial Pigments plant where no precipitation occurs at this point, the reason being that the solution is not in colloidal condition. They apparently have some colloidal material come through with the leaching operation but this is removed in the clarification by copper sulfide. Fladmark, however, states in lines 27 to 30 that the precipitation is based upon the fact that the colloidal titanium hydroxide is caused to coagulate whereby it is precipitated in a comparatively insoluble condition. Further reference appears to this on page 2, lines 5 to 9, in which it is stated that it is probable that a considerable portion of the titanium in the solution does not exist in the form of normal or basic sulfate but in the form of a colloidal solution of titanium hydrates. Fladmark's patent was issued in 1918, and at that date the art had not advanced to any great degree, so that even if Fladmark's yield of titanium oxide should be proved to be relatively low, yet it would not be a sufficient legal objection against the operativeness of his patent to show that Fladmark's yield is less than that of Commercial Pigments by their modern hydrolysis method.

The situation on infringement therefore is that Commercial Pigments form a concentrated solution of a titanium compound and heat to precipitate titanium hydrate, thereby infringing literally, and it does not appear to be a valid objection against the operativeness of the patent to assert that heating will not precipitate some concentrated titanium solutions where special steps have been taken to prevent the presence of colloidal titanium, which latter is specifically referred to by Fladmark as being the basis upon which the titanium hydroxide is caused to coagulate. Consequently, my opinion is that the patent is infringed.

Concerning validity, we have before us at the present time a reference, Blondel, Bull. Soc. Chim. *21*, 262-4 (1899). This states in the translation under "II"—"2." that a solution of .5 parts titanium dioxide in one part of concentrated sulfuric acid, diluted with 1.5 parts of its weight of water, precipitates sulfates of titanium dioxide with compositions varying with the temperature and corresponding, for 100° to the formula $2TiO_2 . SO_3$ + water, for 130° to the formula $7TiO_2 . 2SO_3$ + water. This teaches that 2.25 parts of water are to be added to .5 parts TiO_2 and one part 96% H_2SO_4 to form 3.75 parts total. We shall have to assume a density of 1.5 for this solution, although the sulfuric acid and water by themselves would form a liquid having a density of 1.32. On this assumption, we have .5 + 3.75 (1500 grs. per liter) which equals 200 grams TiO_2 per liter, and also, similarly, about 385 grams per liter H_2SO_4. This falls within the range covered by Fladmark, namely, 80-350 grams of TiO_2 per liter and 82-410 grams of SO_3 per liter. This appears to anticipate Claim 1. As for Claim 2, we know that 2.45 lbs. of H_2SO_4 (100%) per lb. of TiO_2, is required to form the normal

sulfate of titanium $Ti(SO_4)_2$. Our ratio, however, is .5 TiO_2 to one of the sulfuric so that Blondel discloses less acid than is required to form the normal salt of titanium.

Question has been raised as to how Blondel got the TiO_2 into solution in the sulfuric acid inasmuch as calcined TiO_2 is insoluble therein. This point is a fact question that will need to be answered together with the actual density of the solution, which is not known at present.

I have referred in my letter of February 2, 1931 to H. Bradshaw, page 2, last paragraph, to the fact that formulas given by Blondel show SO_3 percentage much higher than Fladmark on page 2, line 32, of his patent. It is further stated that the boiling point of Blondel's formula should be known by us. The reason why this reference must be so carefully examined is that it has been so far our only defense against Fladmark and it is a rather brief statement published 32 years ago which when used to anticipate a U. S. patent must leave no doubt as to its teaching. I am afraid that if suit is brought on Fladmark and the Blondel reference is shown to be faulty or ambiguous in respect to the matter touched upon above, the court may lay the reference aside. Our position on validity therefore must be that Blondel is a reference of doubtful value and that if it does not clearly anticipate the Fladmark patent must be considered valid.

JEBSEN No. 1,333,819

This patent is closely related to the Fladmark patent and each patentee refers to the patent of the other. Claim 3 is infringed by the Commercial Pigments procedure. The novelty in the claim centers around the quantity of sulfuric acid required for the attack on the ore. Jebsen not only

uses less sulfuric acid than is necessary for the formation of normal salts but he also employs a concentrated solution, assigning credit for the latter to Fladmark.

The validity of Claim 3 has been considered at length. References relating to the use of sulfuric acid in dissolving titanium compounds are Spence No. 670,819, Spence No. 681,993, Spence No. 758,710, Farup No. 1,087,575, Farup No. 1,156,220, and Nielsen & Goldschmidt No. 1,343,468; of these references apparently none are strictly applicable. The procedure of Spence in his patents is a little too far removed while Farup in the earlier patent does not leach prior to calcination and I therefore hesitate to cite it as anticipatory. The latter Farup disclosure gives 1 to 2 parts of concentrated sulfuric for 1 part of ilmenite ore but here again a heating to 600° C. immediately occurs. Nielsen & Goldschmidt, page 1, line 21, refer to the use of sulfuric acid but otherwise there is no pertinent disclosure.

A better group of references are found in Barton No. 1,155,462, Rossi & Barton No. 1,196,030 and Weintraub No. 1,014,793. As far as the ratio between TiO_2 and H_2SO_4 is concerned Weintraub directly anticipates Jebsen but when the ratio is figured on all the normal salts to be formed, I understand that the calculations of the Station show that Weintraub is just within Jebsen's upper limit. This, of course, still leaves it technically as an anticipation but it is not safe to depend on this since Jebsen might either reissue or disclaim or the court might read Jebsen to distinguish over Weintraub. In Rossi & Barton, line 50, it is stated that 95% sulfuric acid in the proportion of 2.5 to 2.6 parts by weight of acid to 1 part of titanic oxide in the material, is used. This may possibly be a protection for Commercial Pigments as it approximates their own

ratio in respect to $H_2SO_4 : TiO_2$. Rossi & Barton do not give the ilmenite analysis as do Weintraub and Jebsen, and state (line 60) that they form titanic sulfate and get a nearly complete combination with the bases. In the Barton Patent No. 1,155,462 a TiO_2 composition is recited at the top of page 2 and as I read this reference Barton is intending to prepare a titanic concentrate as a starting point for the sulfuric acid, or else to start directly from ilmenite, page 1, line 76. I therefore take it that the composition at the top of page 2 is to be treated with the 95% sulfuric acid. Information received today from the Station shows that the average percentage of this example fails to anticipate Jebsen. Patent No. 1,196,030 practically forms normal salts with the bases and hence fails to anticipate Jebsen.

We must now consider the question of priority between Jebsen and these two Barton disclosures. Jebsen's filing date is October 12, 1917 and in Norway November 1915. Rossi & Barton filed March 10, 1915 in the United States for Patent No. 1,196,030 and July 14, 1914 for Patent No. 1,155,462. That gives them eight months and sixteen months priority respectively against Jebsen. The possibility must be considered, however, that Jebsen can go back to a date of invention in Norway prior to the dates of Barton and Rossi & Barton as the law allows him this privilege in the event suit is brought on the Jebsen patent and anticipation is attempted by means of the Barton references. In case Jebsen should be able to place his date sufficiently far back, Weintraub would remain the best reference available. It is probably sufficiently safe to rely upon the Barton and Rossin & Barton priorities against Jebsen in order to anticipate the latter, but if we go ahead and lose a suit brought on the Jebsen patent we must be prepared to practice and

operate the expired Weintraub Patent No. 1,014,793 in order to escape from the injunction. Therefore, I think it should be definitely known whether or not we could operate according to Weintraub who uses a quantity of sulfuric acid equal to double the weight of the ilmenite (52% TiO_2; 47% FeO).

I have considered the question of invention in using a specific amount of sulfuric acid in the attack on the ilmenite. It might be argued that the quantity of acid is merely a matter of economy or degree and not all invention and I think this is to some extent true, but nevertheless a large number of methods have been devised in the patented art for extracting titanium oxide, and the chances are that the courts will let Jebsen have his specific method for solving this problem as it presents a useful, operative, economical method of attack and is utilizable in conjunction with Fladmark (who appears to have been a collaborator of Jebsen's). In other words, Jebsen presents a valuable step in the preparation of titanium liquor up to hydrolysis, and even if the patent is not considered valid because of lack of invention the difficulty is not obviated because when we come to Claim 2 of Fladmark it is included in the combination treatment, which Claim 2 is still more difficult to invalidate.

In conclusion, Jebsen's Claim 3 is infringed and appears to be valid in view of patents Nos. 1,196,030, 1,155,462 and 1,014,793 with the foregoing reservations. Claims 9 and 10 and others cover the counter current principle in leaching the attacked mass. I have not noted any unexpected result obtained by such a process and hence see no invention in it. The principle of counter current treatment and leaching is quite old in the industrial arts. Claim 18 covers the feature of decomposing the ilmenite by steps

and hence is infringed also. As in the preceding case, there is nothing novel in repeatedly extracting a material to get the valuable ingredients out and I therefore do not see where any invention would be involved in applying it to the extraction of ilmenite. A claim like 19, however, in which is incorporated the quantity of decomposing agent might be considered valid as it covers Jebsen's process in some detail.

WRIGLEY & SPENCE No. 1,338,473

This patent is infringed by the Commercial Pigments process in respect to claims 4, 5, 6, and 7. These claims are not directly anticipated by any previous publication in the art, but the following considerations regarding patentability and inventiveness in the step of cooling should be noted:

Jebsen No. 1,133,819 leaches the cake formed from the sulfuric attack on the ilmenite and says (page 3, line 6) "that crystallization is just avoided in the last vessel of the series". He forms a concentrated solution (line 16). Later on (line 79) he reduces the iron. Apparently, he does not crystallize the ferrous sulfate because his state of dilution is just great enough to keep the iron in solution. However, he recognizes the unfavorable effect of the iron in the product but advises (line 126) to redissolve and operate the process over again in order to get a purer TiO_2. From this we can take it that he did not contemplate crystallization of $FeSO_4$. We must compare with this also the disclosure in Fladmark No. 1,288,863 (lines 100-110) wherein it is apparent from the concentrations involved that in the June 9 examples the ferrous sulfate has been partly crystallized out. Now Fladmark operates according to Jebsen and apparently in these two instances his dilution was not great enough so that he obtained a crystallization.

Now the effective dates of Wrigley & Spence are subsequent to these June 9, 1916 results for Wrigley & Spence filed outside the Convention and had a British application date (No. 14,950) of October 16, 1917, which carries their date of invention back there. It would be possible legally to carry the Wrigley-Spence date back to the actual date of invention in England in order to avoid Fladmark, but this would involve Wrigley-Spence in the necessity of explaining their delay in filing their application in the United States. When they filed in Great Britain October 16, 1917, they apparently had no knowledge of Fladmark, who published on December 24, 1918, but who was much more diligent because he filed May 10, 1917, whereas Wrigley-Spence filed five months later. On this evidence the Fladmark and Jebsen priorities may be considered established to the extent of the disclosures.

These disclosures do not go so far as to make an outright anticipation, but Fladmark indicates that crystallization may occur, and this raises the general question whether or not there is any invention in lixiviating the TiO_2 cake in such a way that a liquor is obtained from which iron may be crystallized. It has been suggested that Jebsen necessarily precipitated iron sulfate by reason of his concentration, but the foregoing discussion has demonstrated that that is not true. Wrigley-Spence appear to have based their procedure upon Jebsen and Fladmark, as they took not only the strength of sulfuric but also the quantity from those patents and simply added the step of crystallizing the iron, which variation in the process consists merely in using a little less water than did Jebsen for the solution of the cake, or a higher temperature. Commercial Pigments leach at 60° C. and if they proceed like Jebsen with an equal amount

of water, they will thereafter necessarily deposit $FeSO_4$ when the liquor cools. It will therefore be apparent that the allegation of invention by Wrigley-Spence is difficult to support. Perhaps the best that could be said for it is that it is a step in a combination of steps resulting in the obtaining of TiO_2 in a pure state. While this is true, yet it remains the fact that Wrigley-Spence did not claim the combination and, in fact, did not describe a process of hydrolyzation, nor did they invent the initial conditions previously disclosed by Jebsen and Fladmark. Consequently, I think that the Wrigley-Spence patent is of doubtful validity. We can risk the infringement if we are prepared, in case of defeat, to hydrolyze in a liquid containing all the iron (maintained therein by proper dilution or elevated temperature).

OLSEN & FORLAND NO. 1,333,849

This patent covers the preparation for precipitation of a solution containing tetra-valent titanium salts, consisting in reducing all the iron to divalent iron and reducing a part of the titanium so as to insure the non-precipitation of iron. Apparently the iron although reduced has a tendency to occlude itself or otherwise associate itself with the titanium precipitate, and the inventors claim to have discovered that if the titanium is reduced partly it will prevent this contamination by iron.

The patent Claims 1, 2, 4 and 5 are infringed by the Commercial Pigments' process and solution.

Regarding validity, evidence of prior invention is found in the Rossi & Barton Patent No. 1,196,030, page 2, lines 21 to 43. It is here stated:

"and the presence of at least some little titanous sulfate we find desirable in order to insure the retention of such iron as may be present in the ferrous state which as we have above indicated is a condition indispensable if production of the purest possible precipitate product is desired."

Rossi & Barton filed March 10, 1915, whereas Olsen & Forland filed May 16, 1917, being thus two years behind. In their Oath, Olsen & Foreland give as their earliest foreign filing date the Norwegian case Serial No. 9502 of August 9, 1916, which is not early enough to overcome Rossi & Barton on priority. However, under the law interpreting Section 4886 of Revised Statutes, it is possible for Olsen & Foreland to go back to their date of invention in Norway in order to sustain their patent against evidence of prior invention and it would accordingly be possible for them to show a date prior to Rossi & Barton although we have of record no evidence to indicate that they could do so.

The disclosure in Prescott and Johnson of record upon which the Examiner relied still appears fairly pertinent although it does not, as pointed out by applicant, state exactly how far the reduction goes (it may be of interest that this citation of Prescott and Johnson was made by the writer).

It is of course well known that, for purposes of hydrolysis of titanium, the iron should first be reduced. This is brought out by Weintraub and other references. Some of these methods of reduction would not reduce the titanium at all because of the chemicals employed but from a broad viewpoint it may be stated that a method of reducing iron completely would be entitled to take along with it some of

the titanium to the trivalent condition in order to insure completeness of reduction if the chemicals were capable of so reducing the titanium. These are arguments that can be brought up against the patent on the ground of lack of invention but they are not as safe to rely on as the priority of Rossi & Barton. However, it can be stated on behalf of the patent that an extra effort must be made to reduce the titanium and that it is not obvious that such trivalent titanium will have the effect of totally preventing occlusion of iron in the precipitated hydrolyzed titanium compound.

It is disclosed in British Patent No. 1835 of 1903 and German Patent No. 152,257 to Dreher that the iron can be prevented from contaminating the precipitate, by reducing the titanium with hydrogen formed by placing zinc in the sulfuric acid solution. Dreher appears to make a total reduction of the titanium. Please note that Weintraub also reduces by hydrogen when he puts zinc in and therefore it appears to me that Weintraub is very likely to get a partial reduction of titanium when he completely finishes the iron reduction by zinc.

In Claim 5, Olsen & Foreland have included the ratio of acid as claimed independently in Jebsen but I fail to see patentable combination between this step and the step of titanium reduction as Olsen & Foreland were not entitled to monopolize a combination of two old steps that had no specific chemical connection.

Accordingly, I regard Olsen & Foreland anticipated by Rossi & Barton, subject however to the possibility that they may prove a very early date in Norway and thus overcome the Rossi & Barton date of invention. It is also doubtful whether Olsen & Forland have any invention over the Weintraub disclosure.

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GOLDSCHMIDT NO. 1,348,129

This patent covers the calcination of titanium oxide to obtain a product of crypto-crystallization character. The latter is illustrated in the patent as comprising rounded particles having a crystalline interior. Specifically, the patentee calcines between 900-1000° C. for a sufficient time to obtain this result. Thereby he produces a product eminently suitable as a pigment.

He filed October 12, 1917. At this date, the more or less analogous lithopone art had not yet performed its calcinations as high as 900° C., the Llopart patents and others having recommended temperatures at 700° C. or lower. It was therefore specifically new in the pigment industry to perform the calcination in the vicinity of 900° C., although it was known as far back as 1907 that the higher the calcination temperature the lower the oil absorption of lithopone. The raising of the calcination temperatures would involve only a matter of degree and would not be inventive in this art, unless some new unexpected result were obtained.

Goldschmidt maintains that such a new result is obtained in the crypto-crystallization of his product, this property being necessary for a good pigment. If that is a fact, and if Commercial Pigments has actually obtained a crypto-crystalline product; then the situation is one that will be very difficult for the defendant, because as the matter stands today the Commercial Pigments Company is in Goldschmidt's specific calcination range of 900° to 1000° C. Assuming that crypto crystallization is a fact, as alleged by Goldschmidt, then it would be necessary to invalidate the patent directly on the prior art. This could be done by showing that titanium oxide has been calcined to produce crypto-crystallization, or else that the heating treatments

of TiO_2 in the literature were inherently capable of achieving that result even though the latter was not directly stated.

We have in the past reviewed this subject of the prior art as follows:

In the opinion of April 14, 1928 to Mr. Chickering, page 26, we referred to the use of 1000° C. for the heating of titanium oxide and referred to the following references: Wohler, Liebig Ann. *73* p. 33, 44, (1850); Moissan, Traite, p. 514; Richter's "Lehrbuck der Annrg. Chemie" (1899, p. 276); also Moissan, Treatise on Inorganic Chemistry, 1905, Vol. 2, p. 511; Ruff in "Centralblatt", 1913/14, p. 1202; Weber, "Zeit. fur Anal. Chemie," 1912, II, p. 498-500, Vol. 51; Bornemann, "Chem. Centralblatt", 1911/1, p. 539.

We also referred to the time element as we did not know whether these literature references were operated for a sufficient time to produce crypto-crystallization.

In the opinion of February 18, 1929 to Dr. Sparre, page 6, I suggested avoidance of infringement by operation below 900°C.

On April 15, 1929, in the opinion to Mr. Chickering, page 9, I referred to our understanding and information that the product was crystalline to some extent at least.

In the opinion to Dr. Bradshaw, February 21, 1930, last page, I repeated the art of the April 14, 1928 opinion. I included also British Patent No. 11,964 of 1899, specifying calcination at a high temperature. I also stated that "if all you do is to calcine at 900°C. without getting the special result obtained by Goldschmidt, then I do not think you ought to be held to infringe". In other words, the prior art entitles you to heat TiO_2 up to 1000° C. so that the mere treatment of TiO_2 at elevated temperatures is a permissible thing, unless the *time* of treatment is such as to produce

Goldschmidt's special result of crypto-crystallization (assuming such a thing is possible).

In my letter of January 21, 1931 to Dr. Bradshaw, after further study of the data, I concluded that Goldschmidt may have made a new discovery in the pigment art not disclosed before in relation to pigments. Now this would be a strong point for the patent as long as the crypto-crystallization ensues, but the position of the patent would be weaker if the prior art exhibited crypto-crystallization and there remained consequently nothing for Goldschmidt to claim except the discovery that the prior art TiO as prepared was valuable for pigment purposes without further change or treatment.

Also in the last letter, I reviewed the prior TiO_2 pigment literature showing calcination between 600 and 800°C. and even to 900°C. in order to get rid of the volatile matter (which Barton said was combined water). Whether it is combined water or SO_3 does not seem to matter much as the art appears to have recognized the necessity of driving off the volatile constituents. Whatever time of treatment is necessary in order to do this is permissible in view of the prior literature and patents and, if in the course of such endeavor the crypto-crystallization is also obtained as a matter of necessity from that practice, then there is no invention in Goldschmidt. However, if after the expulsion of the volatiles, Commercial Pigments continues the calcination for a length of time in order to secure the crypto-crystallization (which had not been obtained at the moment of final expulsion of the volatiles) then Goldschmidt has an argument. However, even there I must interject the statement again that raising of the calcining temperature in lithopone calcination in order to attain the strength and to lower the oil absorption was published back in 1907 and

was a widely known thing in the lithopone art years before Goldschmidt. I further suggested in my letter of January 21, that two things could be shown either (1) crypto-crystallization occurs at the prior art calcining temperatures or else (2) that ordinary calcination between 900-1000°C. does not produce crypto-crystallization. It has been represented to me in the correspondence that crypto-crystallization exists in the raw pigment before calcination. If that can be proved, it wipes out Goldschmidt's argument for novelty.

It is important in the prior patents such as No. 1,189,229 that they direct, in reference to calcination, the expulsion of all volatile matter. They also refer to a density of 3.6 or 3.7 or 3.8 (Patent No. 1,106,406, page 3) which density may be similar to that obtained by Commercial Pigments. This is a fact worth noting.

In the reference by Bornemann & Schirmeister, Metalurgie I, 646-9 of 1910 (p. 711), and 7, there is clearly disclosed the heating of TiO_2 up to 1000°C. for 15 minutes in order to get a pure TiO_2 by expulsion of foreign matter. This would appear to anticipate a troublesome claim like No. 10 of Goldschmidt which covers heating above 900°C. to obtain stability against heat and light, provided the 15 minutes duration of heating is long enough to attain such results. It is important to remember that Goldschmidt obtains valuable results by heating past 900°C. aside from the crypto-crystallization, for he also gets light stability and low oil absorption as well as purity and good color. If all of these favorable results are obtained by Bornemann et al. in these references then the only point remaining in favor of Goldschmidt would be that he taught the value of such a procedure to the pigment industry, which actually did not know.

these things in the year 1917. This would be a very weak point on behalf of Goldschmidt since his patent is for a process and resulting product, and not for the use of the product in a different physical form or composition. My understanding from Doctors Bradshaw, Keats and Pierce is that Bornemann's heating for 15 minutes is sufficient. On that basis, I am prepared to say that Goldschmidt would be invalidated. I want to caution you that there must be nothing doubtful about this point for, if we can not demonstrate that Bornemann's procedure will give a good pigment, then this citation must fail.

The same line of reasoning applies to the remainder of the art which I will cite to complete the record.

Rammelsberg, Berichte 5, 1006, heated TiO_2 for a long time to whiteness and noted that it became crystalline. Hautefeuille in A. Ch. (4)4, 127, heated TiO_2 between 860° and 1000° to form brookite. Other researches show heating with microcosmic salt or with borax, etc., and have obtained crystals of TiO_2, and in fact all heating operations seemed to form a crystalline product. In Zeitschrift fur. Anal. Chemie., Vol. 51 of 1912, p. 500, TiO_2 was calcined to 1000°C. Wöhler in the Letvig reference supra, obtained a crystalline powder of TiO_2 after strong calcination.

All of this art shows clearly that TiO_2 has been heated to 900° or 1000°C. for appreciable lengths of time and a crystalline product has invariably resulted. It seems to me that such treatment would of necessity cause the TiO_2 to have a low oil absorption and also to have good stability against light as well as to remove volatile matter. If this is true, then there would remain for Goldschmidt only the argument that his product is crypto-crystalline whereas the prior art product is merely crystalline in the brookite or

rutile forms. I do not see how he can distinguish, however, between crypto-crystalline and crystalline, inasmuch as he has not stated in his patent any fixed time of treatment (other than a rotary kiln treatment in the conventional manner) nor has he said anything whereby we could determine that he had a crypto-crystalline product as compared with an ordinary crystalline product. Accordingly, if Commercial Pigments is sued by Goldschmidt, and they definitely prove that the calcination treatments of these references in the literature produce TiO_2 that has low oil absorption, good resistance to light, and good pigment qualities, then Goldschmidt can not win. If, notwithstanding such proof, there is such a thing as a crypto-crystalline product formed by careful attention to the calcination conditions and such product is fairly easy to differentiate from an ordinary crystalline TiO_2 formed by prior art calcination, then Goldschmidt will still have a special situation that he can protect to the extent that it is infringed. However, I am very skeptical as to whether there is any such thing as crypto-crystallization but this question must in the end be left to the technologists to answer.

On the basis therefore that the prior art produces calcined TiO_2 of crystalline character and having otherwise good pigment qualities, I consider the Goldschmidt patent anticipated.

ROSSI & BARTON NO. 1,196,030

This patent was discussed in reference to Jebsen from the standpoint of anticipation, but for the reasons given it was not thought to anticipate. If, however, the opposite view be taken, namely, that this patent covers a quantity

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of sulphuric acid in the attack similar to that used by Commercial Pigments, then we have to consider infringement for claims 1 and 3 would be directly infringed. In fact, the claims appear to be broad enough to cover the Commercial Pigments operation even though the patent is not a reference against Jebsen, for Commercial Pigments makes a basic titanic sulfate since the precipitate contains SO_3. The patent has two more years to run.

C. H. BIESTERFELD.

C. H. Biesterfeld

CHB:PLM

Exhibit 196

EXHIBIT "E"

CHEMICAL DEPARTMENT

July 1, 1931

MR. W. J. BEADLE, DEVELOPMENT DEPT.

In accordance with out conversation yesterday afternoon I am sending you herewith two copies of our report which discusses the Commercial Pigments patent situation and possible methods of avoiding patents owned by the National Lead Company. I am not enclosing copy of Dr. Keats' report on the process because it is not yet finished and I am not at all sure that you will want it when it is completed. It will be written in considerable detail and probably is most important as a matter of record.

(S) H. BRADSHAW
ASSISTANT CHEMICAL DIRECTOR

HB:EM
Enc.

Exhibit 196

EXHIBIT "F"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
Legal Department

June 29th, 1931.

MR. W. J. BEADLE, ASST. DIRECTOR,
DEVELOPMENT DEPARTMENT
BUILDING

PIGMENTS—GRASSELLI

I am returning herewith Agreement of March 24, 1927, between Commercial Pigments Corporation and Blumann Rare Earths Chemical Company, and also agreement of December 17, 1929 between Commercial Pigments Corporation and Joseph Blumenfeld, et al.

The effect of the agreement of December 17, 1929 is to cancel the agreement of March 24, 1927 between Pigments and Bulmann Rare Earths. In brief, the contract of December 17, 1929 provides that Pigments will not export to any country other than the United States and its territories, any products produced under the Blumann patents; that Terres Rarés will not export into the United States or any of its territories; and the Terres Rares contract of March 24, 1927, providing for exchange of improvements, processes, etc., shall continue in effect until January 31, 1954.

(S) THOMAS R. HANLEY

TRH/amp
ENCLS.

Exhibit 196

EXHIBIT "F" (2)

COPY

E. I. DU PONT DE NEMOURS & COMPANY

LEGAL DEPARTMENT

June 22d, 1931.

MR. WALTER J. BEADLE, ASST. DIRECTOR
DEVELOPMENT DEPARTMENT
BUILDING

I have your letter of June 19th with enclosures.

This Department has no objection to the various enclosed contracts from the standpoint of legality. However, in the agreement of June 25, 1929 between Travancore Minerals Company, Ltd. and American Ilmenite Corporation, the last sentence in Paragraph Six should be omitted in the new contract which I believe is contemplated between the Travancore Minerals Company, Ltd. and the corporation to be organized: This sentence is decidedly objectionable from the anti-trust viewpoint.

You will note that only the agreement of March 7th, 1929 with the Vanderbilt Company contains a clause authorizing assignment. While I believe you will have no difficulty with the contracts for the purchase of sulfuric acid and fuel, nevertheless, the consent of the respective parties should be obtained.

I would suggest that you carefully consider the effect of the agreement of March 24, 1927 between Commercial Pigments Corporation and Joseph Blumenfeld and The French Company in regard to the exchange of information and im-

provements. It will be necessary in this instance to first obtain consent to the assignment.

I spoke with Mr. Hartwell on the 'phone this morning and he has assented to leaving Paragraph XI in the form as originally drafted. He has also agreed to furnish us with copies of the contracts of March 24, 1927 between Commercial Pigments Corporation and Rare Earths Chemical Company and of February 12, 1927 between Mr. Tichnor and Blumenfeld.

Mr. Hartwell also stated that he would send to me a copy of the deed, previous to execution, under which the Commercial Pigments Corporation will acquire the site of the Baltimore Plan, and will also forward to me a title certificate to this property.

(S) THOMAS R. HANLEY

TRH/amp.

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EXHIBIT G

COPY

THE GRASSELLI CHEMICAL CO.
Incorporated

Newark, N. J.
July 2, 1931

Mr. W. J. Beadle,
Development Department
Wilmington, Del.

(Personal)

The several Commercial Pigments contracts and agreements which were submitted with your letter of June 19th were discussed briefly in Wilmington on Monday, and hereafter will present some of the comments made, plus further thoughts in the meanwhile.

The R. T. Vanderbilt Co. arrangement is one on which final opinion will have to be held for a complete review of their activities and accomplishment. It is a type of contract that we naturally would never think of entering, since it contains a twelve months cancellation clause and means that at best we cannot come from under without giving a year's notice. When the proper time arrives, and if it is decided to continue with Vanderbilt, it would be preferable to have a year to year understanding.

Likewise, it is not entirely clear whether any extended pigments produced by Commercial or successors would be included, but I believe this will be found to be so and probably was the intent. When a new agreement is written up this would have to be taken into consideration, and also

the matter of exclusion of Titanium Lithopone, which was brought into the new company by Grasselli and not Commercial.

It is unfortunate that Vanderbilt owns the trade mark, "Rayox", under which Commercial's TiO_2 has been sold generally, and for our own protection it may be necessary to purchase this trade mark at some later date. In the case of any additional products being considered in a new agreement, we would stipulate that material be sold under brands registered and owned by ourselves.

Since this is an assignable contract, we will have to proceed accordingly and arrange for modifications after we know more about the full intent and Vanderbilt's record.

The agreement between Commercial and Blumenfeld as submitted is somewhat incomplete as we do not have in our possession the contract dated February 12th, 1927 nor that dated March 24th, 1927 mentioned therein.

No possible termination date is mentioned, and since with the passing of time it might happen that there would be good reason for considering discontinuance of interchange of information, we ought to know complete terms. Please understand that we have absolutely no ideas along these lines at the present time, but this is merely stated as a future possibility.

We presume the agreement would include any Titanium products or derivatives thereof, such as extended pigments. Furthermore, we are not quite clear on the status of the work done at the Station up to the present time. Dr. Sparre's letter of June 24th makes it clear that everything we now have is subject to the duPont-I. C. I. agreement, and I presume, also includes C. I. L. In that case, it would appear, if eventually such information must be turned over

to Blumenfeld, it would be on a non-exclusive basis, at least insofar as it applied to anything we now possess.

The agreement between Travancore and American Ilmenite Corp. is apparently not assignable, and at the present time our ideas are in favor of continuing this end of the consolidation under the American Ilmenite Corp. name to distinguish the minerals from pigments. Since the American Ilmenite Corp. is an asset of Commercial Pigments Corp., through stock ownership, would it not be possible to simply arrange for this transfer without any change in the present set-up?

The agreement, however, has several weak spots. I particularly note that paragraph eight leaves us wide open on supplies of ilmenite, providing as it does for a prorata distribution of their production in the event of any difficulties. I understood from you that to date Commercial had taken all the ilmenite for which they were obligated under paragraph eight.

There is the possible thought that paragraph five might be changed to permit us to arrange for ocean freight and insurance if we can effect any saving, however, that is something which will come after, as well as information on prices, etc.

The fuel oil contract appears to be entirely satisfactory, but on the acid, no mention is made of the price which Whiting will allow on the 15 to 17% H_2SO_4. Mr. Chase mentioned that this material is taken at $3.00 per ton, basis 50° Be, and if 25% acid is shipped, the price becomes $4.00 per ton. This contract looks as if it should prove quite attractive, provided Whiting takes back all of the spent acid. Mr. Chase stated he is required to do this by the terms of the contract, but that he does not make good.

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Apparently there are only two special tank cars available for sending this material back to him and he delays the return.

I do not have the tonnage figures, but in May, acid to the extent of $22,000.00 was purchased from Whiting, and only $530.00 worth of acid sent back. This is far out of line, and would require some very definite action.

(S) C. H. RUPPRECHT

CHR:MW

Exhibit 196

EXHIBIT "H"

COPY

E. I. DU PONT DE NEMOURS & COMPANY
LEGAL DEPARTMENT

June 30, 1931

MR. W. J. BEADLE, ASST. DIRECTOR
DEVELOPMENT DEPARTMENT
BUILDING

TRAVANCORE INVESTMENT-COMMERCIAL PIGMENTS CORP.

The investment of Commercial Pigments Corporation in Travancore Minerals Company, Ltd., is evidenced by 150 Prior Lien Debentures, 17,490 "A" Shares and 4,500 Ordinary Shares.

This entire interest stands in the names of W. A. Burton and D. J. Burke, nominees of Commercial Pigments Corporation. These same nominees on March 6, 1931, executed a Declaration of Trust in which they acknowledged that they held the above mentioned shares for the use and benefit of Commercial Pigments Corporation. Further, that they had deposited blank transfers with the Pigments Corporation and that they would account for all dividends, interest and profits received by them from such shares and debentures.

I am informed by Mr. Hartwell, Attorney for Commercial Pigments Corporation, that the certificates for these shares are at present on deposit with the Guaranty Trust Company of London, and that a certificate issued by the Trust Company is held in the London Office of Commercial Solvents Corporation.

So far, from the information available to me, I see no objection to the present status of this investment. However, because of restrictions on transfer set forth in the Articles of Association, it may be difficult, if not impos-

sible, for these shares to be transferred to a new assignee. The restrictions are of no moment at this time, for the reason that it will not be necessary to transfer the shares but only to have a new Declaration of Trust executed by the owners of record, acknowledging that the beneficial interest is held for the new corporation. Of course, it will also be necessary for Commercial Pigments Corporation to execute an assignment of its interest in these securities.

In this connection, Mr. Hartwell advises me that he does not believe such a procedure need be approved by the India Office, but suggests that the opinion of the English Solicitors should be had on this point. In the event the plan of reorganization, as contemplated, is consummated, it is my opinion that we would be protected as much as is possible, by having Commercial Pigments Corporation assign and transfer to us, its beneficial interest in this investment, together with the certificates and other instruments of title, and that thereafter it shall be determined whether or not the new corporation wishes the present nominees to remain as holders of record of these shares and debentures. If the new corporation were satisfied with the present nominees, then it would only be necessary to secure a Declaration of Trust from Burton and Burke running to Krebs Pigment & Color Company, Inc., rather than Commercial Pigments Corporation. If, on the other hand, it is decided to substitute new owners of record, then the names of the new nominees should be inserted in the certificates endorsed in blank and the new owners of record duly qualified. At any rate, I see no necessity for consulting English Attorneys until it is determined at this end just which procedure the new corporation desires to follow.

TRH/amp (S) THOMAS R. HANLEY

EXHIBIT "H"

Exhibit 197

COPY

GRASSELLI CHEMICAL COMPANY

CLEVELAND, OHIO

July 9, 1931

Commercial Solvents Corporation
230 Park Avenue
New York

Gentlemen:

SOLVENTS, GRASSELLI & DU PONT
REORGANIZATION AGREEMENT

In accordance with Article IV of the Agreement between Commercial Solvents Corporation, E. I. du Pont de Nemours & Company and this Company, we hereby give you notice that this Company desires to proceed with the plan of reorganization as set forth in said Agreement.

Yours very truly,

(S) T. S. GRASSELLI
President

Exhibit 198

Copy to T. S. Grasselli
C. H. Rupprecht
Wm. Richter
C. R. Mudge

To: EXECUTIVE COMMITTEE SERIAL NO: S-2421

FROM: DEVELOPMENT DEPARTMENT July 13, 1931.

KREBS PIGMENT AND COLOR CORPORATION

In your Committee's resolution at the meeting on June 17, it was stated—

> "It is understood that as to the question of the inclusion or exclusion of Canadian rights that Dr. Starre will develop this situation with Mr. Purvis and Mr. Ticknor and report back to this Committee, and to the Grasselli Board if the interests of The Grasselli Chemical Company are involved, before the agreement is finally executed".

Your Committee has been advised orally that on further investigation it was ascertained that the Commercial Pigments Corporation does not, in fact, own the Canadian rights to the titanium pigment processes and therefore cannot convey these to the Krebs Pigment and Color Corporation. For this reason, the agreement relative to the organization of the new company does not mention the Canadian rights except to state that the du Pont Company and The Grasselli Chemical Company are under certain obligations to Imperial Chemical Industries and to Canadian Industries Limited as a prior commitment. This situation

has been discussed with Mr. Ticknor who states that there is only an informal oral understanding relative to the Canadian situation and it has therefore been suggested for the consideration of the management of the new Krebs Company that, as early as practicable, Mr. Ticknor should call on the European parties and endeavor to obtain the Canadian rights for the new Krebs Company or at least ascertain terms on which such rights could be obtained. The relations with Imperial Chemical Industries have also been explained to Mr. Ticknor so as to make sure that the du Pont Company's obligations are not overlooked.

Mr. Purvis has been advised in regard to the general situation and the writer has stated his willingness to meet Mr. Purvis at the first opportunity when he may be in New York or Wilmington in order that the situation may be explained to him though there is nothing we can do about the situation at this time.

The above is submitted to your Committee for your information and record.

Respectfully submitted,

FIN SPARRE
Director

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TRAVANCORE MINERALS COMPANY, LTD.

The Krebs Pigment & Color Corporation owns shares and debenture bonds of the Travancore Minerals Company, a British company, operating an ilmenite deposit in India. It is from this deposit that the Krebs Company obtains ilmenite for the manufacture of titanium oxide.

The bonds and shares of the Travancore Minerals Company as now issued are as follows:

		Owner
6% Prior Lien	£20,000/0/0	Krebs
5% Debentures	13,989/0/0	Sir Hugo Hirst
35,000 7% Pfd.—1 shilling	1,750/0/0	British stockholders
35,000 Ord.—1 shilling	1,750/0/0	Various stockholders
23,320 "A" 1 shilling	1,166/0/0	Krebs

In addition to the 23,320 "A" shares (the entire issue) Krebs owns 4,500 of the ordinary shares. The "A" shares are entitled to two-thirds of the profits and to elect two out of five directors.

It is required by law that the shares owned by an alien must be registered in the name of a natural born British citizen. The registered owner must file with the British Secretary of State for India a declaration disclosing the name of the alien holding the beneficial interest.

The India office have ruled in the case of the Travancore Minerals Co. that they will not permit of further share holding by aliens. The present registered holders of the shares owned by Krebs are William A. Burton and Denis

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J. Burke. The actual stock certificates are in the custody of the Krebs Company together with signed blank transfers. Mr. Burton is a Vice-President of Commercial Solvents Corporation and its English representative. Major Burke is his assistant. At the present time Mr. Burton and Major Burke are respectively Managing Director and Secretary of Travancore Minerals Co. As registered owners their only function is to vote at the annual meeting.

The By-laws of Travancore Minerals are such that the stock holding of the Krebs Company entitles them to elect two directors: two other directors are elected by the other stockholders and the fifth director is nominated by the British India Office and is Ex-officio chairman of the Board.

The affairs of the Company are conducted by a management committee consisting of three board members, one of whom is the Chairman (nominee of the India Office). One represents Krebs and the third the British stockholders. The committee must act unanimously. Their actions are subject to review by the Board. As the three members of the management committee constitute a majority of the Board the action of the committee is practically final and the Krebs Company, through its own member, has power to veto any proposal to which they do not concur.

The present Board consists of:

Chairman—Sir John Hewett, Representing the India Office
Sir Hugo Hirst, Chairman British General Electric
Mr. George Mathey, Partner Johnson & Mathey
Mr. W. A. Burton, Vice-President Commercial Solvents
Major D. J. Burke, Secretary

The last two are the directors representing the former Commercial Pigments interest.

The Management Committee consists of

Sir John Hewett
Sir Hugo Hirst
Mr. W. A. Burton

History of Travancore Minerals Co., Ltd.

Deposits of monazite, a mineral containing thoria and ceria, were discovered in India in 1909. Some time shortly after their discovery, a German named Schaumberg obtained a concession from the government of Travancore for recovering monazite from the beach sands. In 1910, after holding it for a short time, Schaumberg sold the concession to the Cosmopolitan Mining Company (English Company). At the time of the sale the monazite production was at the rate of 300 tons per year. The entire production was being taken by the Deutsche Gasgluhlich Auer Gesellschaft (Welsbach). This Company, commonly referred to as the Auer Company, owned the patents for making gas mantles from thorium nitrate and needed monazite for making the thorium nitrate. The Auer Company had previously attempted to purchase the concession but were unable to do so.

On December 6, 1910 the Auer Company organized the Travancore Minerals Company (English Co.). Sir Hugo Hirst who owned an English lamp company, which manufactured gas mantles under the Welsbach patents, came into the situation and became the registered owner of the shares of Travancore, subscribed to by the Auer Co. The Travancore Minerals Company was formed to take over the concession and other rights of the Cosmopolitan Mining Com-

pany in Travancore. Jeager, the President of the Cosmopolitan Company, negotiated the deal.

While these negotiations were taking place the Cosmopolitan Mining Co., on May 6th, 1911, was granted a new concession from the Travancore Government running for 20 years and restricted to mining monazite. On July 15, 1911 the Cosmopolitan Mining Co. leased ten acres of private ground from the Raman Pillai Tarawad for a factory site. This lease was for a term of ten years but it was provided that it could be extended at the option of the lessee for ten years more.

The Travancore Minerals Company had an authorized capital of

20,000 ordinary shares (£1)
20,000 preference shares (£1)

The Auer Company subscribed to and paid for 10,000 ordinary shares and subscribed for 20,000 preference shares but only paid in £12,000. The deal between Cosmopolitan and Travancore was completed in 1912. The consideration to the Cosmopolitan Mining Co. was 10,000 ordinary shares of Travancore Minerals Co. Stock and £10,000 cash. The Cosmopolitan Company gave Jeager 1,000 shares of Travancore stock as a commission on making the sale. Auer promptly bought these 1,000 shares from Jeager so the final stock ownership was as follows:

Cosmopolitan	9,000	ordinary
Auer	11,000	ordinary
Auer	20,000	preference

After Travancore had acquired the rights of the Cosmopolitan Mining Company to the concession and factory

site lease they contracted with Schaumberg to operate the property.

A German Company, a subsidiary of Auer, took at £42 per ton the entire output up to 1,200 tons of monazite a year, a part of which they resold to the Lindsay Light Company. This arrangement continued until the latter part of 1914. Shortly after the outbreak of the war Hirst turned over to the Public Trustee all the German shares registered in his name. Schaumberg was interned and shipments to Germany stopped. Sales of Monazite to Lindsay were continued. The company at this time had a very considerable cash surplus and were making a profit on the sales to Lindsay. In 1915, the Public Trustee sold the German shares. These were eventually acquired by Sir Hugo Hirst and Sir John Hewett.

July 2, 1915 the capital was increased from £40,000 to £100,000, but only 15,000 ordinary and 15,000 preference shares were issued. This stock was offered pro rata to the successors of the German shareholder, the Cosmopolitan Mining Company being denied the right to subscribe for their pro rata share.

The new capital was to be used for building a plant for making thorium nitrate. When the Government sold the German owned shares it was on condition that the Company was to erect a plant for producing thorium nitrate. The firm of Johnson & Matthey subscribed to some of the new stock. A new company called the Monazite Products Company, was formed, 51% of the stock of which was taken by Travancore and 49% by Johnson & Matthey. The Monazite Products Company started to build a plant at Dartmouth, England.

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Previous to the war the Germans were operating a thorium nitrate plant at Serguiney, France. After the outbreak of the war the French Government seized this plant and put Dr. Blumenfeld, who was then working for the French Government, in charge. When the Monazite Products Company was started in England they retained Blumenfeld and put him in charge of the building of their plant and process development. $150,000. was spent on buildings and $100,000. on machinery and equipment. This plant never operated on a commercial scale.

In 1917 the Societe Chimiques de Produits Terres Rares (S.T.R.) was formed in France to take over the Sergueney plant. Travancore subscribed 750,000 francs (£50,000) for one-half of the shares of the capital stock. At the time of the subscription, however, they only paid 375,000 francs down. At this time then the Travancore owned one-half interest in Monazite Products and one-half interest in S.T.R. and Blumenfeld was Technical Director of both. Blumenfeld then started serious work on his titanium process, which was financed in part by Weizmann. After the war was over the price of monazite dropped and during the years 1919 and 1923 inclusive Travancore had little income. Lindsay and S.T.R. were its only customers. During these years Travancore were hard pressed for money. They had never fully paid up their subscription for S.T.R. shares. They were spending money for development of the Dartmouth plant and in 1923 were in a bad financial position. The Dartmouth plant was a complete failure and the project was abandoned. S.T.R. was pressing for a settlement on the share subscription.

Finally the S.T.R. was bought by a French Company called the Compagnie Industrielle et Miniere du Nord et des

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Alpes. The "Nord du Alpes" offered Travancore a certain number of their shares and a release from the unpaid balance of their subscription to the S.T.R. shares for the shares of S.T.R. held by Travancore. This offer was accepted and Travancore's investment of 375,000 francs in S.T.R. was represented by "Nord du Alpes" shares.

September 23, 1924—the concession was extended to zircon and ilmenite. From 1924 to 1925 Travancore sold some monazite and zircon, and in 1926 sold some ilmenite (this was the first ilmenite that they had sold).

By 1926 not only had the surplus existing in 1914 and the new capital subscribed in 1915 been expended but also the proceeds of a bond issue.

In 1927 the Monazite Products Company was finally liquidated. At this time the Travancore Company was heavily in debt and there was very little monazite business in sight although the demand for ilmenite was increasing. The mining concession would expire in 1931.

The principal stockholders were Sir John Hewett who had been prominently connected with the British Administration of Indian affairs, Sir Hugo Hirst, Chairman of the Board of the British General Electric and the firm of Johnson & Matthey, the official assayers of the Bank of England.

In February, 1927, Mr. W. D. Ticknor arranged with Sir Hugo Hirst to defray the expenses of obtaining a new concession and advanced for this purpose $25,000.00.

In May of the same year an advance of $30,000.00 was made to the Travancore Company for the purpose of providing facilities for the increased production of ilmenite. In September 1927 an arrangement was completed between Mr. Ticknor representing the Commercial Pigments and Sir Hugo Hirst, respecting the reorganization of the

Travancore Company and its refinancing. A new concession was obtained (the new concession was for 15 years and an option for a further period of 15 years).

The Company was reorganized and the charter amended to comply with the British Board of Trade regulations regarding alien participation in ownership of mineral deposits.

At the reorganization of the Company, the Commercial Pigments Corporation subscribed £20,000 of new debentures at 97 and received an allotment of a new class of one shilling shares entitled to ⅔ of the profits. Against this subscription were credited all the amounts previously advanced for obtaining the concession and for providing for increased factory facilities. The new financing, writing off and composition of old debts placed the Company on a sound basis. The Company has made substantial profits since its reconstruction. Monazite sales have increased due to the demand for ceria for glass making. The principal revenue of the Company has, however, been from the sales of ilmenite. In 1930 the 9,000 shares owned by the Cosmopolitan Mining Company were purchased by Commercial Pigments Corporation and Sir Hugo Hirst, each buying 4,500 shares. The Cosmopolitan Mining Company is now (1931) being liquidated.

The Company's charter, although the India Office has set a limit on the shares that can be held for the beneficial interest of aliens, has safeguarded the interest of such aliens.

The interest of the Travancore Company acquired by Krebs through purchase from Commercial Pigments Corporation and Blumenfeld is now the cominating one in the Company. However, the real deciding vote is and has to

remain in the Chairman of the Board who is the nominee of the British India Office.

Concession

The present concession is for the mining rights on the stretch of beach 79 miles long, lying on the southwest coast of India in the state of Travancore.

The indenture granting the mining rights on the 79 miles also gave the Travancore Company an option on the mining rights on a further stretch of beach adjoining and lying to the north. The extent of the concession and option area is the same as the original concession.

The mining operations are at present confined to about three miles of beach at Muttam this being the part of the concession that contains the richest sands. There is one other rich deposit lying outside of the concession but in the option area which is located at Quilon.

The concession is limited to the beach itself. Space for storing, treating and handling sands must be acquired by purchase or lease from the private owners of the property adjoining the beach. The mining rights on these private lands are also controlled by the government and they can not be mined except under a Government permit.

Controversy With Hopkin & Williams

During the period when monazite was in great demand for gas mantles manufacture it sold at a price that made its production a very profitable business. Companies other than Travancore were encouraged to go into the business. The Travancore Government looked with favor on the establishment of a competitor to the Travancore Minerals Company possibly on the theory that the Government's interest

was more protected by not having one company monopolizing the monazite business.

Among the companies so encouraged was Hopkin & Williams who purchased or leased private lands back of the shore line. They were given government permits for mining and were subject to government royalties. These royalties were the same as the ones charged the Travancore Co. for the beach concession so that the non-government concessionaires were subject to two royalties, one payable to the native owners and an additional one to the Government. The only survivor of the private land operators is Hopkin & Williams. They now own some properties and have leases on others. Their principal properties lie back of the stretch of beach on which Travancore is now working.

Travancore as successor to the Cosmopolitan Mining Company, obtained a lease of the surface rights on ten acres of ground adjoining the Muttam beach. On this site it located its present factory. The original lease dated July 15, 1911 was from a certain Tarawad (Indian family) commonly referred to as the Raman Pillai and Kumara Pillai Tarawad. The lease was for a period of ten years with a renewal privilege for a further ten years period. The ultimate expiration date was, therefore, July 15, 1931. The lease also contained a provision permitting the lessee an additional six months in which to remove his equipment.

In 1918 by some means, Hopkin & Williams obtained a lease to mine monazite (Ilmenite & Zircon not included) on 73 acres of land belonging to the Raman Pillai Tarawad. The 73 acres so leased included the 10 acres occupied by the Travancore Minerals Company's factory. After obtaining this lease Hopkins & Williams attempted

to oust Travancore from the ten acres. A law suit to accomplish this was brought in the Travancore courts but the underlying Travancore Co.'s lease was upheld and they were allowed to retain possession until July 15, 1931.

In the opinion of Travancore Indian lawyers the Hopkin & Williams 1918 mining lease expired in 1930 because according to Indian law a mining lease cannot be made by private owners for more than 12 years from the time that the lessee is permitted to enter the property. The Indian lawyers gave this opinion not withstanding the claim of Hopkin & Williams that they had been denied entry to the property due to the occupation of the ten acres by Travancore, the lawyers holding that the non-payment by Hopkin & Williams of the stipulated consideration barred them from claiming non-performance by the Tarawad.

In order to protect themselves, in case of failure to extend factory site lease beyond July, 1931, Travancore had, prior to the expiration of their lease, obtained a lease on an adjoining piece of land suitable as factory location shown on map as Togappan's Land.

In the latter part of 1930 Travancore before trying to get an extension of their lease to the factory site approached Hopkin & Williams with the suggestion that a definite settlement be made of Hopkin & Williams claims against the Tarawad under their lease of 1918, so that Travancore could get a clear title to a new lease. Hopkin & Williams imposed such impossible terms that Travancore could not accept them.

Later, Mr. Robert Brown, (owner of 50% of the stock of Hopkin & Williams) through Mr. Metcalfe of the I.C.I. (owner of 25% of Hopkin & Williams) communicated to Travancore the desire of Hopkins & Williams to cooperate

with Travancore in reaching an arrangement so that Travancore would not have to move. The arrangement proposed was that Hopkin & Williams were to negotiate for the mining rights for ilmenite and zircon on 63 acres out of the 73. (Their present mining rights cover Monazite only) Travancore were to take a direct lease on the 10 acres and pay Hopkin & Williams £2,000 for the loss of the mining rights on the 10 acres. It was agreed that the local managers of Hopkin & Williams and Travancore would carry out the negotiations. The local managers could not agree and up to the 5th of January, 1931 no settlement had been reached. On that date Messrs. Burton and Gamage, (the latter a son-in-law of Sir Hugo Hirst, Travancore director) representing Travancore, and Messrs. Brown & Metcalfe, representing Hopkin & Williams, met and agreed on a basis of settlement. This agreement provided that both Hopkin & Williams and Travancore obtain new leases simultaneously from the Tarawad, that Travancore pay Hopkin & Williams £2,000 and that Travancore join Hopkin & Williams in petitioning the Government to remove the ten yard restriction. (The Government in issuing mining permits for private lands always restricted these permits to a boundary ten yards distant from a concession boundary). The local managers of both companies were advised as to the terms of the agreement and instructed to carry out its provisions. Either through failure to give proper instructions or misinterpretation of instructions by the local managers no agreement could be reached. The latter part of January the negotiations were taken out of the hands of the local managers and turned over to the local lawyers of the two companies.

A number of months were spent in trying to reduce the London Agreement to the necessary formal papers, but

nothing was accomplished. Travancore had no right to occupy the premises after July, 1931 (except six months grace to move plant) and being in danger of being legally dispossessed sent Major Burke to India to see what the real difficulties were.

Major Burke found:

1. That the carrying out of the London agreement had been blocked by Mr. Taylor, Hopkin & Williams local manager, who in a letter dated January 21, 1931 to Mr. Priestley, Manager of Travancore, took the position that the leases could not be negotiated simultaneously and as a condition precedent to any negotiations between Hopkin & Williams and Travancore the latter must acknowledge the validity of the Hopkin & Williams 1918 lease. Only after such acknowledgment would Hopkin & Williams be willing to discuss any settlement with Travancore. (The settlement of the question of the validity of 1918 lease was the principal purpose of the London agreement).

2. That the removal of the ten yard neutral strip would bring the workers of the two companies close together. Since the local managers were not on speaking terms he feared that endless trouble would ensue. Further that the mining of the ten yard strip might damage the beach deposit.

3. That Hopkin & Williams had actually breached the London agreement in that they had attempted to get the Tarawad to sign a new lease covering the entire 73 acres for mining ilmenite and zircon. They had obtained two signatures to this new lease; one on January 17th and one on January 18th.

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In view of the above on April 18th Major Burke cabled his principals and advised the cancellation of the London agreement so that he could be free to negotiate at once with the Tarawad for a new lease on the ten acres. Travancore served notice of cancellation on Hopkin & Williams and the latter accepted cancellation.

Major Burke consulted the local Indian attorneys who advised him that the Tarawad, due to the small number that had signed the new Hopkin & Williams' lease, were in a position to make a lease for the factory site and in their opinion the Hopkin & Williams' rights under the 1918 lease were very limited and they would be unlikely to sustain the position they had taken in the courts.

Major Burke on this advice had prepared a new lease from the Tarawad to Travancore and got the signatures of 86.4% of the Tarawad. The new lease was for one year with an option for a ten year extension. It was still an open question whether the factory should not be moved in any case and the new lease with the Tarawad only committed Travancore for one year. The consideration for the extension period of ten years was 14,000 rupees at the present rate of exchange amounting to about $4,000. The Travancore Indian attorneys gave as their opinion in discussing the rights of the 13.6% who did not sign "for these reasons although the title is not perfect, the company (Travancore) is only taking a risk which a man of ordinary prudence would take under the circumstances.

The situation at present can be briefly stated as follows: Hopkin & Williams have a lease dated 1918 for mining monazite on 73 acres, on ten of which is located the Travancore factory site. Hopkin & Williams claim this lease runs for 12 years after they have been given possession of

the property and that up to now this possession has not been given them. Hopkin & Williams further claim to have the signatures of part of the Tarawad on a new lease running for 12 years from January, 1931. This new lease gives them the right to mine ilmenite and zircon. Up to now, they have not received a government permit for this purpose. Travancore has a lease on ten acres for one year with an option in the lease for ten years additional. The Travancore lease has been signed by 86% of the Tarawad. Hopkin & Williams have instituted suit against the Tarawad to gain possession of the entire 73 acres. This suit is still pending. A number of conferences have been had between representatives of Krebs and Mr. Brown looking to a dismissal of the suit but nothing definite has been accomplished.

The issue between Hopkin & Williams and Travancore is a question of their respective rights under the two leases; Hopkin & Williams' lease of 1918 and the Travancore lease of 1931 both made by the same property owner. The value of these rights is easy to estimate and it should not be difficult for Hopkin & Williams and Travancore to reach a perfectly fair agreement. Unfortunately, however, Hopkin & Williams have interjected into the discussions a demand that certain situations, which they consider unfair to them but not arising from the actual controversy, should be considered. The situations which they wish to discuss are:

1. Travancore has obtained contracts for supplying the requirements of a term of years of by far the larger users of monazite thereby leaving very little monazite business to Hopkin & Williams.

2. Travancore is in the position to obtain the business of practically all the users of ilmenite with the exception

of the I.G. who obtain theirs from an affiliated company in Norway.

3. Travancore has a government concession on the beach sand deposits and that such rich sand deposits as are on the private lands are contiguous to the boundary line of the government concession and as the law does not permit mining on private lands within ten yards of the concession boundary, they are stopped from mining the richest part of their leased ground.

4. Travancore has by means unfair to Hopkin & Williams established very friendly relationship with the natives.

Mr. Brown apparently feels that if he presses the present suit against the natives he will force Travancore to a discussion of the above situation.

As a justification of the continuance of the suit he advances the argument that unless the native "is put in his place" and shown that he cannot play one company against the other that in the long run it will be detrimental to both companies.

As a veiled threat as to what he can do to Travancore in other directions, he suggests that Travancore is dominated by alien stockholders while Hopkin & Williams is entirely British owned; therefore, the government in its consideration of the two companies will be more favorably disposed towards Hopkin & Williams and that government favors may play an important part in the success of either company.

The reason that Mr. Brown gives for continuing his suit appears far fetched. What the natives have done or

not done has been largely instigated by the local representatives of the two companies and it is hard to see any interpretation of Mr. Brown's desire to continue the suit other than to annoy Travancore. The relations existing between the Travancore Company and the natives is very satisfactory.

A bid for government favor based upon the ownership of the company's stock seems rather pointless. Both companies are British and pay British Corporation and Income Taxes. Both pay royalties on the minerals produced; the more minerals shipped the greater the revenue to both England and India. The present large shipments from India by Travancore are directly attributable to its alien stockholders and these stockholders in case of any discrimination against Travancore in favor of Hopkin & Williams can divert the business elsewhere and there would be no compensating business to Hopkin & Williams that would offset the loss of revenue to the State through income tax and royalties.

December 8, 1931.

Exhibit 199

APPENDIX I

The lands owned and leased by Hopkins & Williams are reported to be as under. These have not been definitely checked, but the Travancore local manager believes them to be correct.

OWNED BY PURCHASE

Ordnance Survey No.	*Acres*	*Cents*
506 A.	1.	18.
" B.	1.	17.
520 A.	—	21.
" B.	—	29.
" F.	2.	23.
523 A.	1.	17.
" B.	1.	16.
	7.	41.

LEASED LANDS

LAND occupied by plant and buildings	17.	—.
" now being mined	64.	—.
Raman Pillai's disputed lease land	73.	—.
Pullian Tope	8.	—.
Total Land Leased	162.	—.
ADD " Purchased Land	7.	41.
Total Land Held	169.	41.

Exhibit 199

NOTE: By local manager. Of the above lands the 73 acres owned by Raman Pillai is held very insecurely by Hopkin and Williams on a doubtful monazite lease, and an incomplete ilmenite and zircon lease signed by only two members of the Tarawad. The lease of the 17 acres on which their factory and buildings now stand is being disputed in the courts by the Indian owners. It is of course impossible to foretell the result but Hopkin and Williams appear to regard the matter as being serious, and in any event it will cause them trouble and expense. I do not anticipate that they will have to move as possession is nine points of the law, but they may have to pay heavily to stay on.

Exhibit 199

APPENDIX II

MEMORANDUM OF AGREEMENT re Leases from Raman Pillai Tarawad made between Mr. Brown and Mr. Metcalfe representing the majority shareholders of Hopkin & Williams (Trawancore) Limited, Mr. Burton and Mr. Gamage representing the majority shareholders in Travancore Minerals Company Limited,

AGREED

1. IT is the object of negotiations to give Hopkin & Williams (Travancore) Limited the mining rights over the land at the same time to allow Travancore Minerals Company Limited to keep their buildings, etc., on their present site.

2. Travancore Minerals Company Limited will assist Hopkin & Williams (Travancore) Limited to obtain the mining rights over the whole area of 73 (seventy-three) acres from Raman Pillai Tarawad and Hopkin & Williams (Travancore) Limited will assist Travancore Minerals Company Limited to obtain from the Raman Pillai Tarawad a surface lease over the whole of the area comprised in their present lease (roughly 10 (ten) acres), both these documents to be signed simultaneously.

3. Travancore Minerals Company Limited will, in spite of this lease, permit Hopkin & Williams (Travancore) Limited to exercise their mining rights over the ground where the Travancore Minerals Company Limited Railway at present runs on the sea shore, but such exercise

shall not interfere with the working by Travancore Minerals Company Limited over the railway.

4. Travancore Minerals Company Limited will give Hopkin & Williams (Travancore) Limited a right of way over the leased land so as to allow them access to the road and in general both parties will give rights of way to each other in order to allow a general carrying out of their operations.

5. Travancore Minerals Company Limited will pay to Hopkin & Williams (Travancore) Limited £2,000 as compensation to the latter for giving up their mining rights under the leased land of 10 (ten) acres and this payment will be made immediately on signature of the Leases.

6. Travancore Minerals Company Limited will assist Hopkin & Williams (Travancore) Limited in any efforts they may make to obtain a reduction of the existing 10 (ten) yards marginal limit.

(Signed) ROBIN BROWN

E. METCALFE.

Imperial Chemical House,
London, S.W. 1.

6th January, 1931.

Exhibit 200

No. 402. Mr. Carter

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, September 11th 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Mr. Blumenfeld is leaving today for New York on his way to Japan, and intends to call on Mr. Cornish. In view of this the following information may be of interest:

As you probably know, Mr. Ticknor gave a luncheon in London, at which were present Mr. Beschorman, Mr. Sidford, Mr. Warshow, Mr. de Greeff and myself, and Mr. Chase, Mr. Ewing (Dupont's European representative) and one other gentleman from Dupont's office in London, as well as Mr. Burton.

The day before, I called, as a matter of courtesy, on Mr. Burton, which resulted in a lunch with Mr. Ticknor and Mr. Chase. Both explained that the combination with Dupont would in no way impair the plans of a coming together of their and our group—it would rather further the matter. The Commercial Pigment Company and the two Lithopone companies of Dupont will be brought into one company under the name of Krebs Pigment and Colour Company in which the Commercial Solvents will have

shares, Mr. Ticknor will be a member of the board and Mr. Chase an active member of the staff. Mr. Ticknor wished to do all what he could to bring their groups and ours together, and he thought that I should not give up the plans of a consolidation of the titanium interests in Europe. They were leaving for the Continent and Mr. Chase expected to see Mr. Donegani of Montecatini and wanted to see me in Paris after that.

I asked Mr. Ticknor if not the prominent interests of Dupont in Lithopone will make them reluctant in developing titanium pigments. Mr. Ticknor considered that to be of no importance to him now, as he would have a profit from both pigments.

Mr. Blumenfeld here in Paris has told me that he was informed by Mr. Ticknor and Mr. Chase of the situation in New York, and that Dupont would continue the conversations with National Lead Company. He was willing to wait; he was, however, in a difficult position as he could sell more than he could produce, and he returned to his question of an earlier date—if we would deliver him some TiO2. He had also to decide before he left for Japan, whether he should put up a factory or not, but as such a factory would make an arrangement with us more difficult because we in that case ought to concentrate on Leverkusen, he was willing to make the sacrifice of postponing his decision, on the condition that we refrained from selling pure TiO2 in France and left that to him. He would take material from us in excess of his own production, and return the proceeds over to us after deduction of his expenses, so he thought there would be no sacrifice on our side.

I also met Mr. Ticknor in Paris, partly together with Blumenfeld and partly alone. He thought Blumenfeld's

decision not to take any steps which would prejudice a future agreement with us was most satisfactory, but was evidently surprised when I told him of the condition connected with this. He then criticised quite strongly Blumenfeld's attitude and suggested that I should have in mind to purchase Blumenfeld's interests. He said: "we have no intention of taking an interest in France and I do not know whether we will do anything in England".—I told Mr. Ticknor that a purchase of Blumenfeld's interests might be the best and perhaps the only way of dealing with Blumenfeld, in the case of a consolidation, but I was afraid that the price Blumenfeld would have to ask in order to save his face vis a vis his shareholders would be far too high.—Mr. Ticknor thought that Blumenfeld will not put up any factory this winter under any circumstances, thus confirming my own thoughts.

Neither Mr. Ticknor nor Mr. Chase had seen Mr. Donegani, but Mr. Ewing was going to Italy this autumn and would then talk over the matter with Mr. Donegani. Mr. Ticknor thought that Dupont could bring a lot of influence to bear upon Montecatini because of the intimate relations between them.

Mr. Beschorman, Mr. Henrikssen and I saw Mr. Blumenfeld last week and declined his offer, instead of which we suggested to cooperate with regard to the sale of TiO_2, on the same lines as you are doing in U.S.A. with the Commercial Pigment Company. I also told him that I wished in no way to influence his decision with respect to the creation of a factory, as I did not want to be under any moral obligation towards him with regard to possible future negotiations.

Exhibit 200

Mr. Blumenfeld had his sales manager and technical director present at the interview, so Mr. Beschorman had an opportunity to get a personal impression of all three.

Mr. Blumenfeld telephoned me the day before yesterday, accepting our proposal—an arrangement which is presumed to last for a period of 6 months. He also has asked to extend this arrangement to Belgium and Holland, which I told him I would study with considerable interest, but reserved my opinion until I could talk it over with our agent there, adding that in the meantime we may have some practical experience how it would work in France. I promised Mr. Blumenfeld that in case of disagreement or frictions between his sales organisation and ours, I was willing to look into the matter personally if his people would bring the matter to me, which they all accepted.

Personally I am very much in doubt if anything will come out of this at all, in view of the reputation of his sales manager, but it seems to me from the above, that Blumenfeld is anxious to prevent the price for TiO2 to go lower than it is today. On the other hand, I pointed out that when we left to him to fix the price for TiO2 we would not accept an increase of the price.

Mr. Gilbert is of the opinion that we will get the larger part of the TiO2 business in France when the present contracts of the customers of Blumenfeld have run out. We are today delivering to some of Blumenfeld's customers who still have contracts with Blumenfeld with terms for delivery of undetermined date—deliveries the disclosure of which we cannot make in consideration of these customers. The above arrangement does also not oblige us to do this.

Mr. Blumenfeld's repeated suggestion to have us selling him TiO2 indicates that his relations with Montecatini are

still not good and that he also is reluctant to take material from U.S.A. On my question he gave the reason that both were selling all they could produce, but had to correct his statement with regard to Commercial Pigment Company —that this Company has been selling 550 tons per month in the last two months, corresponding to their output. Mr. Ticknor told me in Blumenfeld's presence that they were willing to deliver him TiO2 and, as the quantity Blumenfeld wants is only 25 tons per month, I do not think there should be any difficulty in this. May be the price Mr. Ticknor asks is too high. Blumenfeld's various sales prices in France will enable him to buy at 10-11½ cents per lb. fob, without leaving him profit, but carrying the sales expenses. Mr. Blumenfeld will however then have to introduce the American quality and refrain from mixing it with his own material, to the purpose of establishing a uniform quality; there is quite a difference between the American quality and that of Thann & Mulhouse.

Mr. Holm in Frankfurt told me over the telephone yesterday, that he had had a visit of Mr. Robinson and Mr. Merton. Mr. Holm said that they had complained of low prices and had evidently similar difficulties as we (I.G.).

There seem to be two movements amongst the Lithopone people: some who want to cut prices in order to force the smaller people to leave the business, and others who want higher prices. Mr. Holm has thought that the reduction of our prices will give the former an excuse to claim more strongly the forcing of lower Lithopone prices.

We have still made no change in the prices for the titanium pigments since my return. The meeting of the Lithopone Convention has been postponed to the end of September, and some technical experiments hoped to be realised in the nearest future, may have quite a bearing on

our price policy. I will write you about this in a separate letter.

I have had the pleasure of the visit of Mr. and Mrs. Beschorman and Mr. and Mrs. Sidford with their daughter. Mr. and Mrs. Beschorman left last Saturday and I will meet them again in Leverkusen, Monday the 21st. Mr. Sidford and family left yesterday for London, on their way back to U.S.A.

Mrs. Jebsen returned yesterday with the boys and joins me in sending to Mrs. McCarty and yourself our kindest regards.

Yours very truly,

G. JEBSEN

P.S.—I do not know what background Mr. Ticknor and Mr. Chase have for their evidently strong interest in a consolidation, but thought the above might be of interest to Mr. Cornish and yourself. Mr. Blumenfeld's position is probably not very strong at present, and this, together with their attitude, may hold him back from any aggressiveness for the time being.

Copy to Mr. Cornish.

Exhibit 201

COPY

October 30, 1931

Dr. G. Jebsen, Vice President
Titan Company Inc.
26 Rue de la Pepiniére, Paris, France

Dear Dr. Jebsen:

Many thanks for your letter of October 20th, No. 403, which brings the most encouraging news we have yet had from the factory at Leverkusen. I am sending copies of the letter to Dr. Thompson and Messrs. Ryan, Moses and Washburn all of whom will I am sure be much interested in it.

Your letter of September 11th, No. 402; was received in due course, but no reply was made at the time as we were expecting Mr. Beschorman in a short while, and thought any comments could better be deferred until after his return.

The changes which have taken place in England in the meantime have put all business in that country on a new basis, and the fall in the exchange had had the effect of reducing your price. It will be interesting to learn what the result has been. Tariff in England seems now assured as a result of the recent election, and I presume that the time has arrived when something definite should be done with respect to an English factory.

There has been little opportunity since the return of Mr. Beschorman and Mr. Sidford to discuss the titanium position in Europe, but we expect to give the matter our attention next week. In the meantime, we will await with

interest an expression of your views as to the whole European position.

I have been making quite a little progress since you were here—not as rapid as I should like, but perhaps all that I could expect. I have been coming to the office for a few hours each afternoon since the first of October, and quite enjoy the return to some of my old activities.

At one time we had some thought of taking a house in Pelham, but when the possibility of my return to the office developed we renewed our lease on our old apartment in Washington Square so as to be convenient to the office. We are, therefore, in our old quarters again for one year longer.

I understand that you were not able to move into your new apartment as early as you expected, but that you will do so some time before Christmas.

With kind regards for you and Mrs. Jebsen, I am,

Yours very truly,

McCarty.
Vice President

Exhibit 202

COPY

November 17, 1931

Dr. G. Jebsen
Titan Co. Inc.
26 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

Mr. Chase has again approached us on the subject of license agreement covering the Blumenfeld patents and our own.

Such an agreement could, I think, be arranged very easily on this side if it was thought desirable to do so, but the European situation is more complicated.

Mr. Chase feels that it would not be difficult to buy out Blumenfeld's interests in the various European countries with the exception of France, but thinks the French situation might prove a little difficult.

Will be glad to have the benefit of any ideas you may have on the subject.

Yours very truly,

McCARTY
Vice President

Exhibit 203

January 15, 1932

Dr. G. Jebsen
Titan Co. Inc.
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen;

I am much interested in your letter of January 4th, No. 418, which answers some of the questions asked in my recent letters to you.

Present conditions in Europe are so chaotic that one hesitates to predict what the outcome will be, but I am still of the opinion that sooner or later we will need a factory in England—perhaps sooner than we now expect. In view of this we should, I think, have our minds made up as far as possible as to what we wish to do.

All of us here feel that should we decide to build a factory in England we should like to have the Imperial Smelting Corporation as a partner if when the time comes the project appeals to Mr. Robinson.

Avonmouth may not be as well placed as some other locations from the point of view of transport, but I have been under the impression that this disadvantage can be offset by a lower price on sulphuric acid. Have you made any calculations on this point?

With respect to the Associated Lead Manufacturers, they seem very anxious to get into the titanium business. We do not consider that they are of particular value to the business except as potential consumers. It may be to our interest to allow them to take a participation in any company we form, but it would only be a small one, and perhaps not satisfactory to them. We should, of course, try to keep

them from going into the business with others, but may not be successful.

In mentioning the possibility of drawing our supplies of blanc fixe from LaPorte it was not my thought to locate a titanium plant at Luton, but possible to ship blanc fixe from Luton to the titanium plant.

I, of course, have no idea as to whether or not the English government would go so far as to put a tariff on crude barytes and ilmenite, but having seen the growth of the tariff sentiment in the United States once it is started I think we should be prepared as far as possible for all eventualities.

There is nothing new with respect to the patent situation. The DuPont interests as well as the Commercial Solvents people seem very keen on the exchange of licenses in this country. They tell me that they have no interest whatever in the titanium business in Europe, but are willing to give us their aid in bringing about a European patent arrangement in order to secure the agreement in the United States which they desire. We have not yet come to a conclusion as to whether or not we wish to make the arrangement they suggest in the United States, but are studying the subject. It has something to commend it. We will keep you advised of any new developments. In the meantime we hope you will formulate your own ideas as definitely as possible so that we may have the benefit of your recommendations.

With kind regards, I am,

Yours very truly,

McCARTY
Vice President

Exhibit 204

Letterhead of

NATIONAL LEAD COMPANY

February 10, 1932.

Mr. L. E. Barton,
Titanium Pigment Company, Inc.,
Niagara Falls, N. Y.

Dear Mr. Barton:

I would like to get your opinion with regard to the position I have taken with Mr. McCarty on certain phases of our patent situation. I advised Mr. McCarty that in my opinion we had two process patents which I believe the Commercial Pigments Corporation is using and infringing, which, if enforced, would prevent them from operating according to their present method, and might prevent them from economically manufacturing pure titanium oxide of high quality during the duration of these patents (about five years).

The first patent is the Wrigley and Spence No. 1,338,473, expiring April 27, 1937, covering the crystallizing out of ferrous sulfate prior to the hydrolysis of the titanium sulfate solutions. With the Commercial Pigments Corporation operating according to the Blumenfeld patents, their hydrolysis is conducted in relatively concentrated solutions, obtaining after hydrolysis an acid of relatively high strength and presumably some iron which they are able to concentrate or make use of economically in the preparation of acid suitable for fertilizer manufacture. My contention is that if they were not permitted to crystallize out their ferrous sulfate they would have to work with more dilute

solutions and probably could not work according to the Blumenfeld patents. However that may be, they would be subject to all of the difficulties connected with the recovery of their weak waste acid that confront us.

We bought the Wrigley and Spence Patent and have built up enough information to form affidavits to establish the priority of that patent. I told Mr. McCarty that I thought that the patent was good. He said that he had spoken to Dr. Jebsen about European rights and Dr. Jebsen thought that these rights would be of no value to the Titan Company as they had done this very thing. I told Mr. McCarty that a secret process would not stand against a patent except that the user might be able, in his own plant and under his own auspices, to continue to use the secret process but that it could not be assigned. It would appear doubtful, therefore, whether Leverkusen would have the right to crystallize out ferrous sulfate prior to hydrolysis if Wrigley and Spence had a patent issued to them in Germany standing against that crystallization.

I think I have stated what I told Mr. McCarty as fully as practicable, but there may be other points in connection with this matter that may occur to you, both for and against the position I have taken. I stated also, I think, that it was the general opinion of those with whom I talked (not my opinion only) that it would be very difficult for the Commercial Pigments Corporation to operate and produce a good pigment without prior crystallization, according to their present process or other processes which are available to them.

The second patent is the Olsen No. 1,333,849, expiring March 16, 1937. Somehow or other I have overlooked this patent and it covers the reduction of some of the titanium

to the tri-valent form prior to hydrolysis. It appears to me that this patent is good in spite of the fact that in some of the Titanium Pigment's prior patents reference is made to this reduction. These references are all incidental without apparent recognition of the necessity of the reduction of the titanium. I am obtaining the Patent Office file wrapper on this case to see what was cited against the Olsen patent and it may be that I shall ask Dorsey and Cole to give me a written opinion as to its validity. The Commercial Pigments Corporation by their process of crystallization would remove a large part of the iron but not all of it and it would seem likely that they would have to reduce the remaining iron and some of the titanium before their hydrolysis can be satisfactorily conducted.

I presume that if these patents were good when issued they are still equally as good, although it may be that they have lost some of their value through neglect on our part to warn the Commercial Pigments Corporation of their infringement. I am quite sure that these process patents could still be made the basis of a demand upon the Commercial Pigments Corporation to desist from their use. What damages we could collect is problemmatical. I am not now proposing to discuss whether it would be good policy for us to do anything. It is quite evident to me, however, that for five years we have almost an exclusive field under these patents if we desire to exercise our rights.

Please let me have your opinion at your early convenience.

Very truly yours,

G. W. THOMPSON

GWT:EA
c.c. Mr. McCarty

Exhibit 205

Niagara Falls, New York
February 15, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
105 York Street
Brooklyn, New York

Dear Dr. Thompson: See Olsen 1,333,849 File

Since receipt of your letter of February 10, 1932 relative to Spence U. S. patent 1,338,473 and Olsen U. S. patent 1,333,849, I have reviewed the prior art, particularly the patent literature, rather carefully.

I am convinced that the Spence patent 1,338,473 is sound and could be enforced to prevent the Commercial Pigments Corporation or others crystallizing Ferrous Sulphate from solution before precipitation by hydrolysis.

Wrigley and Spence specification does not indicate by examples that they cooled the solutions to any such temperature as proposed by Blumenfeld, but they refer to refrigeration and their claims are broad enough to cover the cooling of solutions to any temperature for crystallizing out more Ferrous Sulphate. I note too that the affidavit of Howard Spence refers to "subjecting the residual liquors to temperature at about the freezing point of water by refrigeration."

The crystallization of iron from Titanium solutions before hydrolysis and the resulting easier recovery of Sulphuric Acid from the solutions after the hydrolysis of Titanium compounds is likely to be an important favorable factor in

the cost of making Titanium pigments. To prevent the Commercial Pigments Corporation from using such methods would probably put them to considerable disadvantage, but I doubt if it would prevent them from manufacturing a good Titanium Oxide and competing with us to some extent.

The Commercial Pigments Corporation has another patent —Blumenfeld U. S. patent 1,489,183, April 1, 1924, which discloses another method of obtaining a Titanic Sulphate solution comparatively free from iron. The powdery mass of mixed iron and Titanium Sulphates resulting from the reaction between Ilmenite and Sulphuric Acid is treated with a limited amount of water while maintaining a temperature below 50 C, whereby the Titanium Sulphate is dissolved leaving a residue of Ferrous Sulphate. The residue is eventually worked up for crystallized Ferrous Sulphate. I have not tried this process but it does not read as if it would work very smoothly or with great economy from an operating standpoint. Undoubtedly the Commercial Pigments Corporation is as familiar as we are with methods for producing good Titanium Oxide from solutions containing all the iron.

I believe that the Olsen U. S. patent 1,333,849 is invalid because its subject matter is disclosed in prior art literature, including several of the Titanium Pigment Company's patents. The disclosure is particularly clear in the Rossi-Barton U. S. patent 1,196,030, August 29, 1916, from which I quote as follows: "We resort to any convenient, well-known manner of thus reducing the iron when so required as for example, by passing Sulphur Dioxide gas into the solution; but we have more conveniently obtained

the desired result by resort to the well-known electrolytic reduction of the iron in a diaphragm cell. . . . . .

. . . . . .

" . . . . . .

. . . . . .we use as the anolyte very dilute Sulphuric Acid . . . . . and pass the current long enough to ensure the complete reduction of the iron which is indicated by development in the solution of a pale violet color showing presence of some Titanous Sulphate." (Then follows the description of the precipitation.) In case the electrolysis is carried too far, "we have found it useful to add to the solution an oxidizing agent such as chlorin, chlorates, persulfates, or, much preferably, nitric acid, in such quantity as to oxidize most, but not all, of the titanous to titanic sulfate, the proper quantity of the oxidizing agent to thus employ being readily determined from the quantity of titanous sulfate in solution as shown by analyses. But it should be particularly noted that the amount of oxidizing agent thus added should be, in every case, less in quantity than required to completely oxidize all the titanous sulfate, since some atmospheric oxidation will take place during the boiling, and the presence of at least some little titanous sulfate we find desirable in order to insure the retention of such iron as may be present in the ferrous state, which, as we have above indicated, is a condition *indispensable* if production of the purest possible precipitate product is desired."

The process of patent 1,196,030 refers to a method of producing basic Titanic Sulphate of the character invariably produced at our Niagara Falls and St. Louis Plants, and presumably produced by our competitors in the manufacture of Titanium Oxide in pigments. Because our pre-

ferred method of reducing the iron in Titanium solutions was not at that time strictly novel, it was not specifically claimed as a step but the electrolytic method of reduction or any method of reduction was claimed in connection with the process as in claim three which reads as follows:

> The method of producing basic titanic sulfate from a titaniferous-ferruginous material, which comprises digesting said material with sulfuric acid so as to produce titanic sulfate, dissolving the resulting mass in water, reducing iron constituents to ferrous state, and boiling the resulting bath until basic titanic sulfate is precipitated.

The Titanic Basic Sulphate produced by this method was claimed as an article in U. S. patent 1,196,031.

The calcination of Titanic Basic Sulphate to produce Titanium Oxide is disclosed in other Titanium Pigment Company U. S. patents.

I note that you sent a copy of your letter of February 10th to Mr. McCarty so I am enclosing a copy of my letter in case you want it to complete Mr. McCarty's files.

Very truly yours,

.....

Dictated: L. E. Barton
BMM
Enc. 1

Exhibit 206

Niagara Falls, New York
February 20, 1932

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
60 John Street
New York, New York

Dear Mr. Meredith:

Last month you discussed with me a possible arrangement with the DuPont Company for exchange of rights on patents relating to Titanium pigment. It was suggested that a survey of the present patent situation would be desirable, therefore I have studied the matter to a considerable extent and without making an exhaustive report, I submit the following facts and comments as they have occurred to me:

TITANIUM OXIDE

We have no patents which prevent competitors making titanic oxide but we have basic U. S. patents 1,205,267, 1,205,268 and 1,205,269 which cover the use of titanic oxide in paint. These patents, if enforced, would practically control the titanium oxide industry until November 21, 1933.

Representative Claims

U. S. 1,205,267

Claim 1—Paint comprising a pigment containing amorphous, white, titanic oxid (TiO_2) uncombined chemically with other substances.

Claim 3—Paint containing a plurality of pigments, one of which contains amorphous ti-

tanic oxide (TiO_2) uncombined chemically with other substances.

U. S. 1,205,268

Claim 1—Paint containing white lead and also another pigment containing amorphous titanic oxid (TiO_2) uncombined chemically with other substances.

U. S. 1,205,269

Claim 1—Paint containing zinc oxid and also another pigment containing amorphous titanic oxid (TiO_2) uncombined chemically with other substances.

We also have some patents which may give us a commercial advantage over competitors. For example—Spence U. S. Patent 1,338,437, which covers the crystallization of ferrous sulphate from titanic sulphate solutions before precipitation of the titanium compounds, thus permitting the use of more concentrated titanium solutions and economical recovery of sulphuric acid.

Titan Company U. S. Patent 1,333,819—Basic titanic iron sulphate solution and process of making same. This patent, which expires March 16, 1937, is *possibly* sustainable.

Representative Claims

Claim 5—The process of preparing from titaniferous materials containing iron a solution principally of titanium and iron compounds, which comprises subjecting the material to decomposition, by treating the material with sulphuric acid and lixiviating the resultant product, the quantity of sulphuric acid employed being less

than is required to form normal salts with the base-forming material present in the resultant solution.

Claim 21—As a new and useful article, a solution essentially of combined titanium and containing the SO_4 radical, the solution being formed from decomposition product obtained by the treatment of titaniferous materials with sulphuric acid, the SO_4 radical contained in the solution being in less quantity than would be present if all of the base-forming material in the solution were in the form of normal sulfates.

COMPOSITE TITANIUM PIGMENTS—TITANOX-C

Our basic patents U. S. 1,154,462 and Reissue U. S. 14,289 for composite titanic oxide calcium sulphate pigment and process, expires October 5th this year. After that date competitors may manufacture but the industry will still be practically controlled until 1934 by certain of our patents relating to application of composite pigments in paint. For example:

U. S. 1,218,161 Covers pigment and paint containing composite titanic oxide pigment and white lead. Expires March 6, 1934

Representative Claims

Claim 1—Paint containing a pigment comprising titanic oxide and a sulfate mixed with white lead.

Claim 3—As a new article a composite pigment comprising Titanic oxid and a sulfate mixed with white lead.

Exhibit 206

U. S. 1,313,874 Covers pigment and paint containing composite titanium pigments and zinc oxide—Expires August 16, 1936

Representative Claims

Claim 1—Paint containing a pigment comprising titanic oxid and an insoluble sulfate mixed with oxid of zinc.

Claim 2—As a new article a composite pigment comprising titanic oxid and an insoluble sulfate mixed with oxid of zinc.

U. S. 1,251,170 Covers pigment, paint and process of making same by mixing either composite titanium pigment or *titanic oxide* with a mineral extender—Expires December 25, 1934.

Representative Claims

Claim 2—A pigment comprising titanic oxid together with a sulfate base, intermixed with a mineral extender.

Claim 4—A pigment comprising titanic oxid and thereto unadherent barytes.

Claim 7—A pigment comprising principally titanic oxid and not to exceed 20% of a therewith intermixed mineral base.

Claim 9—Paint containing a composition of sulfate base with titanic oxid, and also a therewith intermixed mineral extender.

Claim 10—The method of making paint which comprises grinding together titanic oxid and a min-

ent extender, and grinding the resulting product together with a paint vehicle.

Claim 11—The method of making paint which comprises intimately intermixing a mineral extender together with a composition of titanic oxid with a sulfate base, and mixing the resulting product together with a paint vehicle.

Competitors must also avoid using our improved process of making composite titanic oxide calcium sulphate pigment covered by

U. S. 1,680,316 which does not expire until August 14, 1945

Representative Claims

Claim 3—The method of making composite titanium pigments from a titanium solution which comprises separately and preliminarily forming a suspension comprising acicularly crystalline particles of calcium sulphate, then adding same to the titanium solution, treating the charge to precipitate the titanium compounds upon said calcium sulphate particles, separating the precipitates from the solution, and calcining same.

Claim 14—As a new article, a composite pigment comprising titanic oxide coalesced with acicularly crystalline particles of calcium sulphate of minute substantially uniform fineness.

COMPOSITE TITANIUM PIGMENT—TITANOX-B

Our basic patent U. S. 1,236,655 for composite titanium oxide barium sulphate pigment and process expires August 14, 1934.

Exhibit 206

Representative Claims.

Claim 6—As a new article, a composite pigment comprising titanic oxid and barium sulfate.

After August 14, 1934 competitors may manufacture composite titanic oxide barium sulphate pigment but must avoid infringing our improved process or making the product of our U. S. Patent 1,409,648 which does not expire until 1939. This patent covers Titanox-B formerly made at our Niagara Falls Plant and now made at St. Louis.

Representative Claims

Claim 8—The composite titanic oxide pigment product consisting essentially of carrier particles of barium sulphate having therewith coalesced and thereto externally and interstitially adherent particles of titanic oxide and containing also a relatively small quantity of a fixed alkali compound.

COMPOSITE PIGMENT ON ANY BASE

Our U. S. Patent 1,223,357 which expires April 24, 1934, covers composite titanium pigment on any base or extender, either in calcined or uncalcined condition.

Representative Claims

Claim 7—In the production of composite titanic oxid pigments, the steps which consist in suspending in a titanic sulfate solution particles of therein insoluble matter and thereon precipitating particles of basic titanic sulfate.

Claim 9—As a new composition of matter, the herein described, uncalcined composite precipitate, distinguished as consisting essentially of particles of extender material having therewith coalesced thereto adherent particles of basic titanic sulfate.

Claim 10—As a new composition of matter, the herein described calcined titanic oxid product, distinguished as consisting essentially of particles of extender material having thereto adherent, therewith coalesced, particles of titanic oxid.

TITANIUM PIGMENT APPLICATIONS

Our Titanium Pigment Company patents on the application of titanium pigments in other products than paint are as follows:

U. S. 1,236,367	Use of Titanium Pigment in linoleum	Expires August 7, 1934
U. S. 1,283,455	Use of Titanium Pigment in printing ink	Expires November 5, 1935
U. S. 1,286,916	Use of Titanium Pigment in lake pigment	Expires December 10, 1935
U. S. 1,317,854	Use of Titanium Pigment in pliable filled fabric goods	Expires October 7, 1936
U. S. 1,322,518	Use of Titanium Pigment in rubber	Expires November 25, 1936
U. S. 1,326,319		Expires December 30, 1936
U. S. 1,365,882	Use of Titanium Pigment in nitrocellulose plastic	Expires January 18, 1938

From the foregoing it is clear that our patents, if enforced, will give a monopoly on the Titanium pigment business for two years and after that we would still have patent protection on various improvements which would give us an industrial advantage.

The Commercial Pigments Corporation's patents as a group are rather impressive but when carefully compared with the prior art, they do not appear nearly as formidable as a casual inspection would indicate. Some appear to be either entirely or partly invalid, subject matter of prior art patents being claimed in connection with some apparently new features. Some of their patents appear to be unimportant, others are interesting, instructive and doubtless contain contributions to the art. Some of the patents and claims are no doubt valid but of such a nature that they would not be effective in controlling competitor operations.

Unquestionably the Titanium Pigment Company is in a much stronger position as regards patent protection than the Commercial Pigments Corporation notwithstanding the fact that most of our basic patents will expire within the next two years. This relation should be fully allowed for in any contemplated arrangement.

The possibilities in future development of the titanium pigment industry are so great that the combined strength of Titanium Pigment Company's and Commercial Pigment Corporation's patents is unlikely to prevent the entry of new capital after our basic patents expire.

Future progress in the titanium pigment industry will probably depend more on technical and business initiative and aggressive development than upon patent protection; and in any arrangement for pooling interests the chief advantages

will probably result from exchange of technical information and cooperation relative to construction, operation, purchase of raw materials and marketing.

In considering the matter of pooling interests, it should be kept in mind that the Titanium Pigment Company, with its well-developed research facilities, sales organization and prospects of expansion in new products and facilities should be able to maintain leadership in the titanium pigment industry.

Relative to your question as to whether a survey of the Titanium Pigment patent situation had before been made, I will refer you to Mr. Andrew Thompson's letter of January 20, 1926 to Mr. McCarty.

I am sending copies of this letter to Mr. McCarty and Dr. Thompson with the hope that the information may prove useful to them.

Very truly yours,

.....

Dictated: L. E. Barton
BMM

CC E. T. McCarty
G. W. Thompson

Exhibit 206

Niagara Falls, New York
February 22, 1932

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
60 John Street
New York, New York

Dear Mr. Meredith:

In my letter to you of February 20, 1932 in second from last paragraph, I should have called your attention also to Mr. Andrew Thompson's letter to Mr. McCarty of December 22, 1927 with which he enclosed a rather complete report relative to Titanium Pigment Company's and Titan Company's patents.

Very truly yours,

.....

Dictated: L. E. Barton
BMM
CCE. T. McCarty
G. W. Thompson

Exhibit 207

March 26, 1932.

Dorsey & Cole,
405 Lexington Avenue,
New York, N.Y.

Re: Validity of Olsen & Forland 1,333,849, in view of the patent to Rossi & Barton, 1,196,030.

Dear Sirs:

This is to thank you for your opinion of March 19, 1932, on the validity of the above patent.

I would like to make these comments. If the text of this patent relates only to basic solutions and it is construed that the claims relate only to basic solutions, there is, of course, only a limited protection given by this patent. There is another aspect of the question, however. The Barton patent makes certain disclosures, or presents a record of certain observations which have presented rather puzzling problems to me. If they recognized that the control of the reduction of the Titanium was essential to the precipitation of the iron free product through the prevention of the oxidation of the iron, why was it that they did not cover this step or a feature of the process by a claim? I have talked to Mr. Barton about this and I could not get an explanation that was very satisfactory to me. He stated, if I recollect correctly, that they thought this feature of the reduction of the titanium had been sufficiently disclosed to prevent them from making such a claim, but I cannot find any real disclosure prior to the Rossi and Baron patent 1,196,030. It seems to me that the fact that they did not attempt to cover by a claim this feature of the process of reduction is evident that they did not recognize the importance of the controlled reduction of the titanium for the purpose of obtaining a

white titanium precipitate free from iron. On the other hand, the Rossi-Barton patent does give considerable information about the reduction. This patent ought to be very carefully considered to see whether they give evidence of recognizing the importance of this feature. It is not clear to me, in view of the recent decision in chromium plating patents, that the mere recognition of certain occurrences, without attempting to apply those occurrences designedly for the purpose of securing certain results, constitutes anticipation. This appears to be the case here.

I should explain to you that our interest in this matter lies in the following facts. Certain manufacturers of titanium oxide are getting fairly good results in competition with us. We are confident that they cannot get these results except by the reduction of the titanium in amounts sufficient to prevent the oxidation of the iron during hydrolysis. We ought to notify these manufacturers that they are infringing this patent but we want to be rather sure of our grounds before we do so. I do not think that the matter would come up for action but we ought to be as sure in the matter before presenting our claim to them as we would be if we contemplated a suit.

You can see, therefore, that what confronts us is a very practical question. Under the Agreement between the Titan Company and the Titanium Pigment Company, all of these patents become merged and there would be no conflict between either interest during the life of the contract, but with regard to others the situation is somewhat different. I wish, therefore, you would give this matter a little more consideration and advise us candidly how strong you think the Olsen and Forland patent is.

Yours very truly,

C/T:EA
c.c. Mr. Barton

Exhibit 208

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

April 19, 1932

Mr. W.C. Beschorman
National Lead Company
111 Broadway
New York City

Dear Mr. Beschorman:

I am sending you herewith a copy of Dr. Mayer's report on the conference held in Paris in 1931.

With this report, I am also enclosing a copy of Dr. Jebsen's memorandum on the proposed arrangement between Blumenfeld and Titan Inc., and a copy of my memorandum on the titanium situation, which you may keep for your files.

Very truly yours,

M. F. CHASE

M.F. Chase

MFC:BH
Encl.(3)

Exhibit 208

COPY

TRANSLATION

VEREIN FUR CHEMISCHE UND
METALLURGISCHE PRODUKTION
AUSSIG a/Elbe.

4th May, 1931.

W.A. Burton, Esq.
c/o Commereial Pigments Corporation,
Aldwych House, Aldwych,
LONDON, W. C. 2.

Dear Mr. Burton,

With reference to the negotiations which took place in Paris at the end of March this year in regard to (a general unification of agreement on) the titanium territory, I beg to send you herewith two copies of Report No. 12415. Owing to unforeseen circumstances, and other important work, the preparation of this report has unfortunately taken longer than I anticipated.

With kind regards,

Yours very truly,

(Sgd.) M. MAYER.

Enc. Report No. 12415 (in duplicate).

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REPORT No. 12415 (Translation)

On the conferences with the under-mentioned held in Paris 22 - 26 March 1931.

Reported by Dr. Latka

Trip made by Dr. Mayer.
to Brussels, Paris, Cologne, Berlin.
from.....to 2nd April, 1931.

Present: Ticknor
Chase
Burton
Dr. Jebsen
Dr. Blumenfeld
Ourisson
Janda
Dr. Kuhne)
Holm) on 26.3.31 only
Dr. Mayer

RE: TITANIUM UNIFICATION. Dr./La/Nu. 4.5.31.

The first few days were spent in discussing primarily the international ruling on the titanium territory, when the working and market conditions of each group were considered. The demands to be made of the opposite group (National Lead, Titan Co. Inc. and Titan Gersellschaft) were also discussed.

In these preliminary discussions a special difficulty arose from the situation in England, because there the National Lead demanded 80% of the market and only wanted to leave 20% for the Blumenfeld group. Furthermore, the Verein and the Blumenfeld group demanded as part of their

territory, outside England, a division of the market in the ratio of 40 : 60. A difficulty also arose from Bovisa's position on account of the fact that Dr. Blumenfeld had granted Bovisa the selling rights in a number of countries up to the 1st July 1933.

At the end of the first few days the position was that a demand was made to the Titan Co. of Leverkusen for a 40 : 60% division of the market, whereupon they replied that this proposition could form no basis for further negotiations and that it was quite useless for the I.G. representatives under these conditions to come to Paris.

This attitude of the I.G. made fresh preliminary negotiations with the Blumenfeld group necessary with the object of getting them to abandon to the Verein, in addition to the territories formerly reserved for the Verein, all those countries which the Titan Company of Leverkusen is to-day working in addition to the territories reserved for the Verein. After lengthy negotiations Dr. Blumenfeld declared himself in agreement with such an arrangement under certain conditions.

Now as regards the division of countries, the following should be noted:

1. The reserved territory of the Titan Co. of Leverkusen includes the following countries:

Germany	Austria
Russia	Hungary
Poland	Jugoslavia
Danzig	Czechoslovakia
Roumania	
Bulgaria	Switzerland
Greece	Spain
Albania	Portugal
Turkey	China
Japan	

All these countries will thus, in accordance with the arrangements made for the proportion of the Titan Co., remain the Verein's contracted territory, whilst all other countries, with the exception of North America including the Philippines and all islands, as well as Canada (Commercial Pigments Co.) shall belong to the Blumenfeld group. For Denmark only, special arrangements have to be made.

11. As the territory formerly reserved for the Titan Co. Inc. in relation to the Titan Co. of Leverkusen and the National Lead, the following were determined:

Sweden
Norway
Denmark
Finland
Estonia Lithuania
Lettland
France (with its colonies)
Italy " " "
British Empire
Belgium (with its colonies)
Holland " " "

North America, including the Philippines and all islands, as well as Canada, is the territory reserved for the National Lead.

111. South America belongs jointly and in equal parts to the National Lead and the Titan Co. Inc., the latter shall however surrender its right of delivery to the Titan Co. of Leverkusen. In the event of such an arrangement,

Messrs. Chase and Ticknor asked Dr. Blumenfeld that the Blumenfeld group should grant Commercial Pigments Corporation the right to supply South America with one half the sale of the Blumenfeld group.

The supply of the South American market was therefore allotted as follows:

National Lead
Titan Co. Leverkusen (with Verein—one half the share of the Blumenfeld group)
Commercial Pigments Co. (the second half of the Blumenfeld group's share).

As this would mean a position which could not be maintained, Dr. Jebsen is to negotiate with the National Lead to get them to refrain from exporting to South America. The question is therefore in in abeyance and has yet to be settled between Messrs. McCarty and Jebsen.

Iv. As regards the British Empire, the following is the position: The National Lead is contemplating erecting a titanium factory with the Imperial or National Smelting Co. in Avonmouth (where cheap zinc sulphuric acid is available). Now it was taken into consideration that the English outside groups must have an approximately 25% quota, whilst the remaining 75% should be divided in the proportion of 40 : 60% between the Blumenfeld groups and the National Lead groups, so that the quotas would amount to:

25% for the English group
30% for the Blumenfeld group
45% for the National Lead group

v. The following distribution was also agreed between the Titan Co. Inc. and the Blumenfeld group for the remaining countries:

France:	Blumenfeld group	40%
	Titan Co, Inc.	60%
Holland and Belgium:	Blumenfeld group	20%
	Titan Co, Inc.	80%

whereupon Dr. Blumenfeld stated that this division should only be for the requirements of Holland and Belgium, and not for those quantities which are mixed in these countries and exported as titanium lithopone and the like. For such export the above-mentioned ratio of 40 : 60 shall be in force. (With reference to the carrying on of business, Dr. Jebsen demanded that his group in view of their quota of 60% should have the carrying on of the business. This matter remains to be settled internally with the Blumenfeld group).

vi. Italy belongs entirely to the Blumenfeld group, i.e., Bovisa; the Blumenfeld group asked on behalf of Bovisa that this company might thoroughly exhaust their yearly capacity of 1500 tons, thus the Titan Co. Inc. should undertake the sale of quantities of of titanium acid not sold in Italy.

In the following discussion it was first of all considered what quantities Bovisa had hitherto effectively sold and it was hereby determined that only about 1300 tons were sold, of which 400 tons remained in Italy.

In view of the sales figures determined, a counter-demand was made of the Titan Co. Inc. that only a quota of about 1300 tons shall be allowed to Bovisa, whereat the

Verein undertook to dispose of 170 tons in their territory. This counter-demand supported by Messrs. Chase and Ticknor, was discussed again later (see under).

In this connection, Dr. Jebsen has stated, on inquiry, that he has sold 1178 tons—referring to pure TiO_2—in the territories of the Titan Co. (but all as mixed pigment).

The negotiations had now reached a deadlock. At this point new possibilities of a general agreement were discussed in detail with Mr. Chase, giving rise to the proposal already mentioned above, according to which the Blumenfeld group is to surrender certain territories to the Verein, so as to admit of the possibility of a general agreement with the I.G. A further telephone call was made to Frankfurt, whereupon on the 26th March, Dr. Kuhne and Mr. Holm joined the conference. Then Dr. Mayer entered into immediate negotiations with these gentlemen and Dr. Jebsen. The I.G. representatives were informed that the Verein had had certain countries surrendered to them by the Blumenfeld group, so that now the territory for the activities of the Titan Co. Leverkusen and the Verein (with the exception of Denmark) was the same. The Verein now demanded 30% of the market, with a guaranteed 600 tons increasing to 40%. The I.G. representatives, referring to the discussions in Davos, stated that they had thought that the Verein would be content with the 20% offered them at that time. They then offered 25%, without however, a guaranteed minimum. Dr. Mayer said that that could be considered so long as a total market of an amount up to 2800 tons was meant. But the arrangement with Bovisa was also of importance, for it was impossible for the Verein to take over exactly 170 tons from them. The Verein could at the most undertake to take over from Bovisa 20% of what

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the Verein delivered on their quota, with a maximum of 170 tons. But even this maximum quantity of 170 tons ought not to be fixed for ever. If the Bovisa market grows, the Verein must be freed of their obligation to Bovisa. (In the definite contract a suitable clause must be inserted to this effect).

It was then arranged that discussions should take place in Paris between the Titan Co. Incorporated, the Blumenfeld group and Messrs. Donegani (Bovisa), to settle the above indicated questions in so far as they concern Bovisa.

With the members of the I.G. it was further discussed what quota the Verein should have for an increase of total sales over 2800 tons. Dr. Mayer wanted a successive raising of the quota of the Verein up to a total sale of 7000 tons, so that at 7000 tons the quota should be 35% of the total sales. In the course of the discussions however this quota was reduced to 32% but it was explained that with a total sales exceeding 7000 tons the quota of the Verein should amount to 35%, not however on the total quantity but only on that portion of the total which exceeds 7000 tons. The Verein should formulate its proposal more precisely and submit it to the members of the I.G.

The outlook of the whole Titanium business was then discussed whereupon it was agreed that in the present situation the business may be unprofitable and an improvement can only be expected when it is possible substantially to raise the total sales. In this connection it was recently mentioned by the members of the I.G. that the plant of the I.G. which at present is not worked at anything like full capacity, could, with a relatively slight addition of cost, increase its capacity, from 4500 tons to 9000 tons. In regard to the future outlook, the statements of the Americans were in-

teresting. They say that according to experiments made in America there is not the slightest doubt that an addition of TiO_2 to lithopone not only raises the covering power but leads to a better stability than lithopone alone possesses. This was the reason why the business in America has developed so much more quickly. It was thereupon agreed that the question of manufacturing Titanium lithopone should be gone into thoroughly by the interested parties.

The sale possibilities of Titanic acid pigments as against Zinc white and white lead were decided as follows:—
White lead can be displaced extraordinarily quickly: With Zinc white it depends whether it is possible to put on the market a product superior to Zinc white at a competitive price. Since the covering power of titanic acid is, according to quality, two and a half to three times that of zinc white, the possibility arises, given a sufficiently cheap production cost for titanic acid, of putting on the market a mixture of titanic acid, zinc white and barium sulphate which is no dearer than zinc white but which has considerably better stability properties.

The possibility was then discussed of increasing quickly the sale of titanium white and the following method was reviewed. First, competition with white lead, the sale of which in Germany is estimated at about 10,000 tons and this could be completely displaced by titanium white. Secondly, competition with zinc white (sale in Germany about 12,000 tons) and with lithopone. Here it might be advisable to introduce and force the titanium-lithopone which has already been introduced into America. If favourably working lithopone factories were supplied with titanium oxide at a suitable price, a similarly prepared titanium lithopone must be available to open up large opportunities of sale.

Thirdly the idea of supplying unadulterated titanium white to colour works and merchants for the purpose of manufacturing with these mixed products might be to advantage avoided because of the danger of inferior mixed products being put on the market, which might discredit titanium white.

As regards the further development of the business everything depends on how cheaply titanic acid can be produced. It was agreed that, if the unification in the commercial field is carried out, one must co-operate with the I.G. and test out all possibilities in order to permit of the production as cheaply as possible. It was also clear that if Leverkusen can operate more cheaply, as much as possible of the capacity of Leverkusen should be used before a new English, French or a new factory of the Verein is erected. The point was then discussed under what conditions Leverkusen was to abandon the prepared pigment colours to the other groups of the agreement. If these conditions are particularly advantageous, the idea could be considered of the other factories curtailing or even closing down their production so far as customs conditions permit, if it did not appear expedient in the interests of the development of the business to work these factories further.

It is still to be noted that the Titan Co. Inc. requested the Verein to give up Denmark in their favour. Dr. Mayer expressed himself as ready in principle for a compensation yet to be fixed.

The final results of the discussions can be summed up as follows:—

(1) *North America and Canada.* This territory remains reserved for the Blumenfeld group (Commercial Pigments) and National Lead by reason of an internal agreement.

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(2) *South America.* The settlement of the respective questions remains open. According to the last arrangement (see the detailed announcement above) this territory would be at the disposal of National Lead, Titanium Co. Leverkusen (together with Verein) and Commercial Pigments Co. Mr. Jebsen will further negotiate with Mr. McCarty as to whether National Lead should give up the South American market, in which case the Commercial Pigments Co. would also give up its claim to supplying South America.

(3) Relation of the Titan Co. Leverkusen towards Verein.

The agreed territory (after the original reserve territory of the Verein became extended through the abandonment of a single country by the Blumenfeld group) now comprises the following countries:

Germany
Russia
Poland
Danzig
Austria
Hungary
Jugo-Slavia
Czecho-Slovakia
Rumania
Bulgaria
Greece
Albania
Turkey
Switzerland
Spain
Portugal
China
Japan

The sale in all those countries which are worked by the Titan Co. Leverkusen, will be divided between this company and the Verein as follows. Up to a total sale of 2800 tons per year the Verein receives 25%; for a higher total sale than 2800 tons per year up to 7000 tons per year there will be a successive raising of the quote of the Verein so that at 7000 tons the quota will amount to 32% of the total sales. With a total sales above 7000 tons the quote of the Verein will amount to 35% but not on the total quantity, only on that portion of the total sales which exceeds 7000 tons.

(4) Relations between National Lead or the Titan Co. Inc. and the Blumenfeld group:

(a) *British Empire.* The sales should be so divided that the English outside group should receive a quota of 25%, the Blumenfeld group 30% and National Lead 45%.

(b) *France.* The sales should be divided into 40% for the Blumenfeld group and 60% for the Titan Co. Inc.

(c) *Holland & Belgium.* The Blumenfeld group should receive 20% and Titan Inc. 80%. But this system of division shall only hold good for the requirements of Holland and Belgium and not for those quantities which, in these countries are mixed and exported as Titanium Lithopone or the like. For the purpose of these exports the proportions should be 40 (Blumenfeld group): 60 (Titan Co. Inc.)

(d) *Italy.* 100% belongs to Bovisa. It should be further discussed with Bovisa on the basis that Bovisa to start with remains assured of a total sale of about 1300 tons and that the Titan Co. Inc., within the limits of this total quan-

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tity, shall remove the quantities not sold in Italy, especially for the supply of the English market. The Verein would, in order to ease the situation, take away from Bovisa 20% of that quantity which it supplies on its quota (see para 3) but with a maximum of 170 tons per year. The latter maximum quantity would not remain fixed but rather, if the sales of Bovisa increased, the Verein must be successively freed from its obligation to Bovisa.

(e) *Sweden, Norway, Finland and the Border-states* are the reserve territory of the Titan Co. Inc.

(5) *Denmark*

The question of the handing over of this country by the Verein to the Titan Co. Inc. is foreseen but the compensation to be rendered for it still remains undecided.

The duration of the agreements to be made is, provisionally, for a period of 15 years. Since the American partners would prefer to make the arrangements for a period of 20 years, this latter duration should be accepted if the Americans insist on it.

A general exchange of experience is provided for as well as an agreed regulation of patent matters.

(Sgd.) DR. LATKA.

Exhibit 208

MEMORANDUM OF TITANIUM SITUATION

The development of the titanium business in Europe is at the present time in the hands of the following companies:

I.G. (Kuhne)
Aussig (Mayer)
Montecatini (Donegani)
Thann (Blumenfeld)
Titan Co., Inc. (Jebsen)

The total productive capacity is at the present time sufficient to supply the current demand. However, it is thought that it will not be long before additional capacity will have to be created. The program of Aussig and Thann is that shortly they will have to build plants. The capacity of the I.G. Plant can be considerably increased at a small expense and it seems that all of the European manufacturers feel that it is desirable that they enter into an arrangement whereby the construction of new plants can be deferred for the present and that the supplies can be drawn from the existing plants and the increased plant of the I.G. In arriving at such an agreement it was necessary to arrange for the proportion of business that each company would have. The proposed arrangement is set forth in the memorandum prepared by Mr. Jebsen.

The point has been raised that three of the companies who would be a party to this agreement; that is, I.G., Aussig and Montecatini, are engaged in the manufacture of lithopone and that perhaps the development of the titanium business which is competitive with lithopone would suffer because of this. As far as the I.G. territory is concerned which would be identical with that of Aussig there is, ap-

parently no way to avoid this as both Aussig and I.G. are now in control of the two operating titanium processes. In regard to the territory outside of Germany, with the exception of Italy, the present titanium interests have no lithopone operations so that this territory can be exploited without respect to the effect it might have on the lithopone sales. It is unlikely, that if titanium is sold outside of Germany at a price to make serious inroads on lithopone sales that eventually the price of titanium would not be the same in Germany. This would in a measure counteract the effect of the titanium producers in Germany being more or less influenced in their policy by the fact that they were making lithopone.

The advantages of making the proposed arrangement are:

A—That by the use of the combined information and of concentrating the production in single plants the cost of production would be considerably lowered; that the advance in the art would be more rapid than if the various companies were acting independently.

B—That the sales and advertising could be conducted more cheaply and effectively.

C—That a combination of the present producers, which includes the strongest chemical concerns in Europe would deter other interests from engaging in the business and provide for some time a monopoly for those who have developed the manufacture of titanium.

All the European manufacturers are desirous of entering into such an arrangement. Under the existing condi-

tions such an arrangement cannot be affected unless the National Lead and the Commercial Solvents agree to it.

There are two questions still open for discussion; one of which is the disposition of the Montecatini tonnage (this can probably be worked out by the European interests themselves), the other is the English situation. The proposal for England is a combination between the Imperial Smelting Company, the Commercial Pigments and the National Lead. The division of participation has been tentatively agreed to. However, there is still open the question of composite pigments and the relation of the selling price of such pigments to that of pure titanium oxide. The plant contemplates the erection of a pure titanium pigment plant in England and the importation for the present of composite pigment from Germany. In order to protect the English plant a satisfactory differential between the selling price of pure titanium and the selling price of composite pigment must be established. At the same time the plan must provide at some time in the future that the English plant can produce composite pigments. So far no constructive suggestion has been offered as to how this situation can be met. It is obvious that as a continuing proposition that the English plant could not be excluded from the manufacture of composite pigments; (a) because of the expiration of patents and (b) the difficulty of maintaining a proper differential between the selling price of the two pigments. The expectation is that the cost of production of pure titanium can be reduced to a low figure. In the event of a general duty being applied in England, it would be impossible to import composite pigments into England from Germany at a price at which they could be sold in competition with the English produced pure titanium oxide so that

eventually the English plant would have to engage in the manufacture of composite pigments if the composite pigment market is to be held. It is also quite obvious that a discrimination between the various partners in the English plant as regards the division of profits from the sale of composite pigments and straight titanium would not be fair. It would seem that the fairest way of approaching the solution of this particular difficulty would be by establishing a date after which the English Company could engage in the production of composite pigments.

An agreement to this European program by the Solvents and the National Lead can only occur if these two companies enter into some agreement as regards patents and development in the U.S. either by combination of companies or by a cross-licensing arrangement. An arrangement of cross-licensing between the National Lead and Commercial Solvents would probably be warranted on account of the European situation if there were no disadvantages to either of the Companies now interested in the American market. However, if done it should be worked out in a way to improve the position of both companies.

The advantages to the National Lead and Commercial Pigments, are:

1. A stronger position of both as against a possible third Company.
2. A more rapid advance in technical development and lowering of costs.

There would be no price fixing or division of market.

To accomplish any cross-licensing two situations would have to be cleared up:

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1. Composite pigments
2. New inventions not yet disclosed through issued patents.

It has been suggested that composite pigments be excluded by both parties. This, however, might not be to the best interests of either company and a more constructive plan looking to a more rapid development of titanium in all forms might be worked out.

The new inventions not yet disclosed might be taken care of by an arrangement providing that each company would pursue their own research and development without disclosure, and until issuance of patents, and that on such issuance each party would be entitled to a license. This would provide the proper incentive for individual work, while duplication could be avoided by joining in experimental work on certain specific problems before the work was started.

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MEMO

Minutes of Dr. Jebsen

REGARDING A PROPOSED ARRANGEMENT BETWEEN THE BLUMENFELD GROUP AND TITAN CO. INC.'S GROUP TO THE PURPOSE OF THE REGULATION AND FUTURE DEVELOPMENT OF THE TITANIUM INDUSTRY

Titan Co. Inc.'s group consists at present of the following licensed enterprises:

Titan Co. Inc.
Titan Co. A/S
T.G.m.b.H.
Sté Industrielle du Titane (France).

Further, a close cooperation by agreement is established with the Titanium Pigment Co., which has the exclusive patent rights for North America and non exclusive rights for South America.

The Blumenfeld group consists of the following enterprises:

Sté des Terres Rares
Thann & Mulhouse
Aussig
Montecatini
Commereial Solvents Co.,

which cooperate through exchange of licenses and experience.

Each enterprise has a definite territory for the sale of its product and also definite territory within which they can undertake the manufacture.

Exhibit 208

1) The Blumenfeld group will arrange the division of territories in accordance with the division established for the Titan Co. Inc.'s group, to the purpose that Aussig has the same territory as T.G.m.b.H. Commercial Solvents has the same territory as Titanium Pigment Co.

a) It is presumed that an agreement will be reached between the Commercial Solvents Co. and the Titanium Pigment Co. regarding a cooperation within their territory of such a nature than an exchange of licenses and experience can take place between all the companies concerned.

b) It is further presumed that an agreement between T.G.m.b.H. and Aussig of the same character will be made, and that the lines of this will be:

Out of a total sale in their territory until 2800 t. of TiO_2 (contained in various products) Aussig shall have the right to deliver 25% and T.G.m.b.H. 75%. When the sale exceeds this quantity the quota of Aussig shall increase on a sliding scale which will provide for a quota to Aussig of 32% when the sale reaches 7000 tons. Of any sales exceeding these 7000 tons Aussig's quota shall be 35%.

c) ITALY.

Montecatini has at present the exclusive right to the manufacture and sale in Italy under the Blumenfeld patent, and a temporary right to undertake an export.

It is stated by Mr. Blumenfeld that the Montecatini deliveries in 1930 have been:

Exhibit 208

Italy	400 t.
England	430 t.
Belgium & Holland	90 t
France	135 t.
Various countries	100 t.
Aussig's territories	160 t.
	1315 t.

and that these deliveries have been made to bona fide buyers, either consumers or dealers, for their regular trade, with the exception of 135 tons delivered to Thann & Mulhouse, and the 160 tons delivered to Aussig, which quantities have been bought by these companies for resale.

In view of the Italian market at present not being developed to consume the total capacity of 1500 tons of the Montecatini factory, it is foreseen that Montecatini, until the end of 1936 at latest, shall be allowed to export of its own production to England, France, Belgium, Holland and "various countries" the same quantities as above mentioned for 1930, on certain conditions which provide for the control of the sales and secure that those are conducted in accordance with the sales policy which from time to time is determined by the company which has the licensed rights for the territory to which the export is made. A specification of the export to the "various countries" shall be given and the permission applies only for such quantities to each of these countries as has been sold and delivered in 1930.

Montecatini has sold in England through Taylor Brothers & Cox. The English company (which shall take over the rights for the British Empire) shall have an option to take over the sale of the Montecatini exports to the

British Empire when the agreement with T.B. & Cox is finished or at an earlier date, in the latter case by giving T.B. & Cox a part of a commission on the condition of the English company guaranteeing that the quantity allowed to Montecatini will be sold. The price to be the English Company's sales price less a commission, Montecatini to deliver TiO_2 of a quality equal to what the English company otherwise sells. This quality to be established by standard samples to be sent Montecatini from time to time. In case of dispute regarding the quality, this to be settled by arbitration. (As arbitrator suggested Dr. Jordan of the Research Institute of the Federation of the Oil and Colour Trade in U.K.)

It is presumed that Aussig will buy from Montecatini a quantity of 20% of Aussig's sales up to 160 tons. Montecatini will endeavour to increase the consumption of TiO_2 in Italy and as its domestic sales develop it will reduce its exports to the countries above mentioned by the same quantity, this reduction shall be distributed pro rata over each of the countries mentioned.

Montecatini shall not increase its present annual production until the Italian market consumes it all, upon this occurring all export by Montecatini shall cease.

The same or similar stipulations as made for the import to England to be applied to the import into the other countries mentioned above, except Aussig's territory.

The Montecatini sales in 1930 to be proven to the satisfaction of Thomson and McLintock & Co. London.

d) BRITISH EMPIRE.

It is foreseen that Blumenfeld or Commercial Solvents Co., Imperial Smelting Co. and Titan Co. Inc. shall be

interested in an English company in the following proportions:

Blumenfeld	24%
C.S.C.	25%
Titan Co. Inc.	51%.

The English company to have the exclusive rights in the manufacture and sale for and in the British Empire, and to erect a factory for the production of TiO_2 with the following exceptions:

a) Montecatini's right to import into England as above mentioned.

b) Titan Co. Inc. to have the exclusive right to import composite Titanium pigments. The incidents of this stipulation to be subject of further conversations between Mr. McCarty and Commercial Solvents and/or Mr. Blumenfeld.

e) FRANCE.

It is foreseen that Blumenfeld and Titan Co. Inc. will form a French company in which Blumenfeld will have 40% interest, and Titan Co. Inc. will have 60% interest.

This French company to have the exclusive rights to the manufacture and sale for and in France, Colonies, Dependencies and Protectorates.

Until the company erects its own factory it will take its requirements of Titanium products from the source of supply which offers the best conditions.

Thann & Mulhouse agrees to stop its sales, which will exclusively be made by the new company. Thann &

Mulhouse agrees to cease its manufacture and delivery of Titanium products at latest when the French company starts its own production, and to refrain from any activities in the Licensed Field for a period of
with the exceptions foreseen below.

It is foreseen that license may be given to Thann for the production of Titanium compounds other than pigments to the extent the new French company finds this advisable, and Thann is especially suited for such manufacture, for inst. for $TiCl_4$.

The French company to allow Montecatini to export to and sell in France 135 tons TiO_2 as above foreseen.

f) Belgium and Holland.

It is foreseen that Blumenfeld and Titan Co. Inc. shall be interested in a Belgian or Dutch company in the following proportions:

Blumenfeld	20%
Titan Co, Inc.	80%.

This company to have the exclusive rights to the manufacture and sale for and in Belgium and Holland, incl. their Colonies, Dependencies and Protectorates.

For the present it will take its requirements of Titanium products from the source of supply which offers the best conditions.

In the case that this company supply Titanium pigments for the production of Titanated Lithopone, or similar articles, and these are exported, it is agreed in principle, that the net profit of such supplies after deduction of

selling expenses, shall be transferred to the company into whose territory the material has been imported.

Such means of controlling this export as can be established, without hampering the sale, shall be considered, and the company endeavour to provide the necessary information for the carrying out of this principle.

The Belgian company to allow Montecatini to export to and sell in Belgium and Holland 90 tons of TiO_2 as above foreseen.

g) SCANDINAVIA.

FINLAND AND THE BALTIC STATES (LETHUANIA, ESTHONIA & LETLAND).

Titan Co. Inc. (or its substitute) to have the exclusive rights to manufacture and sell in these countries.

h) SOUTH AMERICA.

Titanium Pigment Co. and Titan Co. Inc. have both the right to export to and sell in South America. A transfer of these rights to other companies in Titan Co. Inc's group may be undertaken.

Blumenfeld agrees to transfer his rights to these countries to the company or companies of his group, which has the right to operate in the same territories as the companies of Titan Inc.'s group, which acquire this territory.

i) OTHER COUNTRIES.

It is foreseen that in all other countries not dealt with above, the interest shall be divided as follows:

Blumenfeld &	40%
Titan Co. Inc.	60%.

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3) LICENSES.

The various companies shall exchange licenses to manufacture and sell under all patents in the "Licensed Field" as defined below.

An exchange of technical and chemical manufacturing experience shall also take place.

As to an exchange of laboratory developments, this matter has not been under consideration, but it should be done.

The Blumenfeld group exchange laboratory experience.

"Licensed Field" means all methods and processes in the field of the manufacture of Titanium compounds containing two per cent (2%) or more of the element Titanium as well as the Titanium compounds themselves. "Titanium compounds" means substances, materials and compositions in which the element Titanium is contained in a chemically or physically combined state, for instance the composition pigments of the character of the Titanox belong to them. Simple mixtures do not come under this definition.

With regard to the territories outside of North America, regulations of the sales have to be made as far as practical to avoid indirect competition between the various companies. Cooperation re the pricepolicy is intended and also between the European Co. on one side and the American Co. on the other.

4) "FUND for the protection of the patents"

In order to prevent infringement of the patents, the creation of a fund to provide for the total or a part of the cost by legal proceeding may be considered.

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A part of the cost may be carried by the party or parties controlling the sales in the country in which the infringement takes place.

The fund may be provided by a payment of each member of the group in proportion to the quantity of TiO_2 sold.

5) Dr. Jebsen gave the information, that the carrying out of this plan is dependant upon arrangements to be made regarding certain contracts and obligations, which are not entirely under their control.

Exhibit 209

April 21, 1932.

Mr. M. F. Chase
Commercial Solvents Corporation
230 Park Avenue
New York, N. Y.

Dear Mr. Chase:

I wish to thank you for the enclosures which came with your letter of the 19th. Should anything further come up I shall again communicate with you.

Yours very truly,

BESCHORMAN
Vice President.

Exhibit 210

KREBS PIGMENT & COLOR CORP.

256 Vanderpool St.

Newark, N. J. April 27, 1932

Dr. G. W. Thompson, Vice President,
National Lead Company,
111 Broadway,
New York City, N. Y.

My dear Dr. Thompson:—

This will confirm the understanding reached at the conference held in your New York Office on April 22nd, 1932, attended by Mr. E. J. Cornish, President, and Messrs. Beschorman, Carter, Rockwell, and Thompson, Vice Presidents, of National Lead Company and Messrs. W. Richter and C. H. Rupprecht representing Krebs Pigment and Color Corp.

National Lead Company and Krebs Pigment and Color Corp. are to send representatives to visit our respective titanium pigments plants and laboratories, for complete and open inspection of processes and apparatus used in manufacture and for discussion of know-how on pure titanium oxide and composite titanium pigments. This is with the definite understanding that patented (inclusive of inventions covered by pending patent applications) and stipulated secret inventions in this industry owned by either company will not be used in commercial operation by the other company without obtaining the owner's consent. It is understood as a result of negotiations in this connection, suitable consid-

eration will be paid for valuable patented (inclusive of inventions covered by pending patent applications) and stipulated secret inventions so acquired and used, it being agreed that no consideration will be expected o paid for information not in this category.

It is also understood that any information relative to possible infringement by one company of patents owned by the other company, obtained during inspection of plants, will not be used by either company as evidence in a contested patent case, but if the plant inspection would show such infringement by one company of the other company's patent or patents, it is the intention of both of our companies to arrive at a just arrangement in the spirit of the preceding paragraph.

The foregoing is to be considered as the first steps toward further negotiations to acquire licenses under patented and secret inventions which either of our companies may desire to acquire from the other company in the manufacture of pure and composite titanium pigments.

The understanding reached between us and set forth in this letter may be cancelled at any time by either company serving notice on the other company provided that such notice cannot be given until both parties have had the opportunity to inspect the other company's plants and processes. It is agreed that all information secured by either company from the other will be considered confidential, both during and subsequent to the duration of this agreement.

This arrangement is understood to apply only to the United States, and none of the information obtained by either party is to be made available to foreign associates.

Exhibit 210

We believe this will be found in accord with your ideas as expressed during our conference, and we are prepared to proceed at once with plant inspections.

Yours very truly,

(signed) C. H. RUPPRECHT.
PRESIDENT.

CHR/MW.

COPY

Exhibit 211

May 10, 1932

Mr. C. H. Rupprecht, President
Krebs Pigment and Color Corporation
256 Vanderpool Street
Newark, New Jersey

My dear Mr. Rupprecht:

This is in reply to your letter of April 27th which you handed me on that day. I am sorry I could not reply to it properly on May 4th. The Spirit of the letter is one that we all reciprocate. I should explain to you, however, some of the difficulties that stand in the way. While they are apparently not insurmountable, they will take time to clear up.

The Titanium Pigment Company has a license agreement with the Titan Company which is very restrictive as to what each of the companies can do, and while the National Lead Company has a controlling interest in both of these companies, it can not do anything legally that would impair the rights of the minority stockholders, and it will take time to bring about such an understanding as will result in more or less formal modifications of the agreement. Therefore, there are some things which you have in mind that will have to be held in abeyance for development although they can be discussed and plans developed for putting them into effect at the opportune time.

Furthermore, it seems to me that what we ought to try to do is to develop the proposition in such a way as to avoid internal friction as much as we can, and get everyone to follow the conception that we have in mind. I would suggest therefore that your letter be accepted as the one that

we have in mind, but that it be developed in the following way:

The Titanium Pigment Company and the Krebs Pigment and Color Corporation are to send representatives to visit our respective titanium pigment plants for complete and open inspection of processes and apparatus used in manufacture and for discussion of all methods that pertain to the developed manufacture of pure titanium oxide and composite titanium pigments. This is with the definite understanding that patented (inclusive of inventions covered by pending patent applications) and stipulated secret processes and inventions in this industry owned by either company will not be used in commercial operation by the other company without obtaining the owner's consent. It is to be understood that as a result of negotiations in this connection suitable consideration should be paid for valuable patented (inclusive of inventions covered by pending patent applications) and stipulated secret processes and inventions so acquired and used, it being agreed that no consideration will be expected or paid, for information not in this category. This however would have to be on the understanding that we would have to develop a means whereby we would have the right to authorize you to use our patented processes, etc., under our license agreement with the Titan Company. It is to be presumed that no insurmountable difficulty would occur in this connection but we have no legal authority to promise anything of this kind at present. Whatever is done would have to be the result of negotiations. The possibility exists of course that we may be unable to bring about a modification of our license agreement with the Titan Company that would permit us to do things contemplated.

It is also understood that any information relative to the possible infringement by one company of patents owned by the other company, obtained during inspection of plants, will not be used by either company as evidence in a contested patent case, but that if the plant inspection should show such infringement by one company of the other company's patent or patents, it is the intention of both of our companies to arrive at a just arrangement in the spirit of your letter, and if difficulty is experienced in so doing, to submit to arbitration.

In connection with your 'phone call made after our conference on the 27th, my idea would be that we could get together prior to the visit and list those process patents which each thought the other was probably infringing. Then during the visits each party should make notes of what the other is doing that would indicate further infringement or be useful, and afterwards, by conference, exchange the notes. There is still some question as to the status of standard processes and apparatus (unpatentable) used by one party but not by the other. I presume this can be settled by conference.

I think this covers the exchange of visits to our respective plants.

My thought is that then we should exchange information as to our respective issued patents (process, products and use), followed by an exchange of information on pending patents. If everything has gone nicely up to this point, and we have, as I expect we shall have, a hearty cooperation in the main purposes we are after, we can then enter into a discussion of our projected patents and an exchange of visits to our laboratories. I am putting this exchange of visits to our laboratories late in the program as I want to

Exhibit 211

develop the matter so that everyone will feel that we are doing the right thing.

I think your statement that the understanding reached between us should be cancelable at any time by either party serving notice on the other is satisfactory, although I can not believe, looking as well as I can into the future, that such cancellation would be probable. I note that you qualify your letter as to cancellation proposition by saying that no such notice could be given until each party had had the opportunity to inspect the other company's plants and processes.

You are right in your understanding that this arrangement is to apply only to the United States so far as any right to use any of your processes, etc., by us is concerned and vice versa. Of course we would have no right to communicate to our foreign associates any information obtained without your consent. On the other hand, it would be our purpose to develop a situation where we could act freely in giving you patent rights, etc., legally and honorably.

I am enthusiastically in favor of this proposition. I think Mr. Cornish is also although some of our people are, to say the least, lukewarm with regard to it.

I was much encouraged by the statement made by either you or Mr. Richter that you did not intend to manufacture composite pigments until you are free so to do through patent expiration.

I shall be glad to confer further with you at any time you may appoint by your communicating with Mr. Carter.

Yours very truly,

(Signed) G. W. THOMPSON.

Exhibit 212

Niagara Falls, New York
June 17, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
105 York Street
Brooklyn, New York

Dear Dr. Thompson:

Our trip to St. Louis worked out about as expected. On Tuesday and Wednesday full days were put in at the Plant with Messrs. Daley, Booge, Evans and Haupt. We also had a session during the evening of Tuesday. Messrs. Daley and Evans left on Wednesday night; Dr. Booge and Mr. Haupt put in a full day with us on Thursday watching the detail operations in making batches of Titanium Oxide and "C" pigments.

Complete details of plant operation and quantity of materials consumed and produced were recorded. A few details of cost were touched upon and many costs they can calculate from other data taken, but no discussion of general costs took place although I have the impression that they would have been glad to have gone into them had we not reminded them that the matter had been left for further consideration between you and Mr. Phelps.

The Plant was in fine condition and operating smoothly on all three of our products. Various ones of their Committee spoke appreciatively of condition of Plant and efficiency of operation, and when we parted late Thursday afternoon, Dr. Booge expressed appreciation for their Committee of the co-operation shown them during the visit. Our development in the Titanium pigment industry is so vastly greater

than theirs at the present time, that I can only hope that the negotiations which are in progress will result in advantages to the Company which will offset the tremendous amount of first-hand information given during their inspection. Mr. Washburn, who will be in New York by Saturday or Monday, will doubtless have much to say relative to these matters. In general, or in principle, I shall probably be in agreement with him, but I think it better that I express my opinions directly to you or others as may be desirable when opportunity affords. I assume that nothing will be done definitely in regard to the new Eastern Plant until we know a little more about the results of present negotiations.

Perhaps even more important than the present negotiations with the DuPont Company is the unsatisfactory situation which seems to have developed in recent months bearing upon the development, operation and merchandising of our products. Personal ambition seems to have been a factor detracting from the effort that might have been devoted to the business and resulting in great lack of co-ordination of effort. It may be as a result of this lack of co-ordination that some lines have been more extended than is justified by near future business prospects. We seem to have no clearing house where various matters can be promptly co-ordinated and the system constantly adjusted to harmonious and efficient operation. I shall be glad to discuss these matters further with you when I have opportunity if you care to go into them.

The topic discussed in last paragraph has been brought up in connection with the matter of our negotiations with the Du Pont Company because I think it has a bearing. Our

defective organization is unfortunate because there is no question but what we have an abundance of talent in research, engineering, production and merchandising fields. In addition to patents, which if enforced, would control the industry for a number of years, we have a number of new and promising lines which have not been exploited or thus far divulged to others. Some of them are probably patentable, but even if not, are likely to result in economies and the development of new business.

Assuming that our efforts are effectively and harmoniously co-ordinated, there is no reason why we should not maintain our leadership in the Titanium pigment industry, ourselves making the desirable expansion during the next few years. This should be the case not-with-standing the results of present negotiations or the fact that information given to present competitors might have to be regarded as a technical loss. See also my letter of February 20th to Mr. Meredith, copy of which was sent to you.

When I was in New York last week, you mentioned that you would have a busy time during this week and possibly longer. I expect to be in New York at the Salesmen's meeting scheduled for the week of June 27th, but I shall be glad to come earlier if you wish to take up any of these matters with me.

Very truly yours,

.....

Dictated: L. E. Barton
CC W. F. Meredith

Exhibit .213

August 12, 1932.

Memorandum for Mr. W. S. Robinson re Blumenfeld position.

Blumenfeld sold the North American rights to Commercial Pigments Company originally for part cash and royalty; the royalty has since been computed on to a cash basis and purchased by the Commercial Pigments Company so that Blumenfeld has no income from the North American rights.

They were also given an option on the British rights, and consequently before Blumenfeld could sell or transfer his British rights to any one he would have to offer them to the Commercial Pigments Company on the same basis as the suggested transfer.

Blumenfeld's French rights are held by Thaan & Mulhouse, terms unknown.

The Italian rights were sold to Montecatini for one-half common stock interest in the plant, with restrictions not to ship out of Italy without Blumenfeld's permission. Montecatini has since obtained Blumenfeld's permission to ship into Great Britain, and we understand ships somewhere between 300 and 400 tons of pure TiO_2 per annum. We understand that this stock has never paid a dividend.

The rights for Germany, Switzerland, Spain, Portugal, China and Japan were sold to Aussig, on what terms we do not know. Our best information is that Aussig's produc-

tion is approximately 300 tons of pure Titanium oxide per annum.

We further understand that on all of these contracts both parties to each contract are required to post the other party on all improvements developed, and give the other party the right to use said improvements. It is for this reason that I felt that it would be dangerous to take Blumenfeld into the English company.

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COPY

August 26, 1932

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment and Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

Permit me to state the understanding at which I believe we arrived as a result of the discussions in my office on August 16th, as follows:

Titanium Pigment Company and the Krebs Pigment and Color Corporation will each in due course send to the representative of the other company a complete set and list of all issued patents it owns, controls or is licensed to operate under and also a list with copies in each case of one or more descriptive claims of its pending patents, together with a statement prepared by its representative of those process patents issued or pending which it is believed are being infringed by the other company in their operations.

In accordance with this, I am sending you a complete set and list of all issued patents that the Titanium Pigment Company owns, controls or is licensed to operate under and also a list with copies of one or more descriptive claims of its pending patents, together with a statement prepared by Mr. Barton of those process patents which in his opinion after consultation with our people are being infringed by the Krebs corporation in their operation at Baltimore manufac-

turing Titanium pigments. I trust you will find these complete and in order.

Please note that as Mr. Barton has explained in his letter; he is expressing no opinion as to infringements of claims in pending patents as the exact wording of patent claims will not be known until these patents are in shape for issue.

At your convenience kindly send me similar papers covering patents, etc., with proper lists of issued and pending patents and any claims which you may have of infringement by us as we are operating at St. Louis of any of these patents.

Yours very truly,

G. W. THOMPSON

Encs.

Exhibit 214

August 26, 1932

Dr. G. W. Thompson,
National Lead Co. Laboratories,
105 York Street,
Brooklyn, N. Y.

Dear Mr. Thompson:

We have compared the process of the Krebs Pigment & Color Corporation as operated at Baltimore with the patents owned or controlled by the Titanium Pigment Company, Inc. It is believed that the following patents of the Titanium Pigment Company, Inc. are infringed in the manufacture of titanium oxide at Baltimore:

Number	*Date of Pat.*
1,338,473	Apr. 27, 1920.
1,196,031	Aug. 22, 1916
1,348,129	July 27, 1920
1,276,644	Aug. 20, 1918
1,288,863	Dec. 24, 1918
1,333,849	Mar. 16, 1920
1,333,819	Mar. 16, 1920
1,412,027	Apr. 4, 1922
1,360,737	Nov. 30, 1920

Further study may possibly indicate other cases of infringement. It has been noted also that the process as operated at Baltimore apparently infringes some of the claims in our pending patent applications, but of course we do not now know whether such claims will finally be granted nor do we

know definitely the form of the claims in case they are granted.

I am enclosing a complete list of our patents, also an abstract of our pending U. S. Applications, in each case giving one or two of the representative claims.

Very truly yours,

L. E. BARTON

LEB/F
Enc.

Exhibit 214

MEMORANDUM

TITANIUM PIGMENT COMPANY, INC.
UNITED STATES PATENTS PENDING

Application No.	Title	Appl. Date
576,198	Composite Pigments	Nov. 19, 1931
580,725	Paints Containing Lead Titanate.	Dec. 12, 1931
572,439	Paper Containing Titanium Pigments.	Oct. 31, 1931
569,264	Alkali Titanate Process.	Oct. 16, 1931
528,964	Application of Titanium Soaps.	Apr. 9, 1931
518,898	Mixed White Pigments.	Feb. 27, 1931
525,605	Mixed White Pigments.	Mar. 26, 1931
555,529	Titanium Pigments Containing Lead Titanate.	Aug. 5, 1931
509,264	Titanium Soaps.	Jan. 16, 1931
475,385	Precipitation of Titanium Compounds.	Aug. 14, 1930
424,439	Titanium-Zinc Sulphite Pigments.	Jan. 29, 1930
420,811	Calcination Accelerators.	Jan. 14, 1930
394,917	Composite Pigments.	Sept. 24, 1929
394,918	Composite Pigments.	
183,245	Treating Ores.	Apr. 12, 1927
574,466	Obtaining Titanium Compounds From Titanium Solutions.	Nov. 11, 1931
193,951	Decomposing Ores & Separating Titanium Compounds from Iron.	Mar. 24, 1927

Exhibit 214

PENDING U. S. PATENT APPLICATIONS

****

Application No. — Title

576,198 — Composite Pigments.

Claim 11: A process for making a composite pigment which comprises treating hydrated titanium oxide containing sulphuric acid with a compound the metallic element of which will form an insoluble sulphate with the sulphuric acid in the hydrated titanium oxide, adding thereto an extender, and calcining said mixture including said insoluble sulphate.

Claim 23: As a new article, a composite pigment containing by weight about 75% barium sulphate and about 25% titanium oxide, and having an oil absorption of less than 14.

Claim 24: As a new article, a composite pigment containing by weight about 70% calcium sulphate and about 30% titanium oxide, and having an oil absorption of less than 17.

580,725 — Paints Containing Lead Titanate.

Claim 1: Paint containing lead titanate.

Claim 2: Paint containing a pigment comprising lead titanate.

Claim 3: Paint containing a pigment comprising lead titanate and titanium oxide.

572,439 — Paper Containing Titanium Pigments.

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Claim 1: In a method for making paper, the step which consists in mixing a titanium pigment with the paper pulp.

Claim 8: Paper containing a titanium pigment.

Claim 11: Paper coated with a titanium pigment and a binder.

569,264 — Alkali Titanate Process.

Claim 1: A method for decomposing titanium ores which comprises heating said ores with an alkali-metal compound in amounts to form the alkali-metal titanates ($M_2Ti_5O_{11}$).

Claim 7: A method for decomposing titanium ores which comprises heating said ores with sodium sulphate and carbon in amounts to form the sodium titanate ($Na_2Ti_5O_{11}$).

528,964 — Application of Titanium Soaps.

Claim 1: Paint containing a soap of a tetravalent element in Group IV of the Periodic Table.

Claim 2: Paint containing a fatty acid soap of a tetravalent element in Group IV A of the Periodic Table.

Claim 3: Paint containing a resin acid soap of a tetravalent element in Group IV A of the Periodic Table.

518,898 — Mixed White Pigments.

Claim 1: A white compound pigment consisting of an intimate mixture of basic carbonate white lead, zinc oxide and titanium oxide.

Claim 2: A white compound pigment consisting of an intimate mixture of basic carbonate white lead, zinc oxide and a titanium oxide composite.

Exhibit 214

525, 605 — Mixed White Pigments.

Claim 1: A white compound pigment consisting of an intimate mixture of basic carbonate white lead and titanium oxide.

Claim 2: A white compound pigment consisting of an intimate mixture of pigments the major constituents of which are basic carbonate white lead and titanium oxide.

555, 529 — Titanium Pigments Containing Lead Titanate.

Claim 1: A method of making a titanium pigment containing lead titanate, which comprises mixing a compound of titanium and a compound of lead, and calcining said mixture.

Claim 22: A calcined pigment containing lead titanate.

509, 264 — Titanium Soaps.

Claim 1: In the production of soap of a tetravalent element in Group IV A of the Periodic Table, the step which comprises mixing an alkali metal soap with a salt of said tetravalent element.

Claim 2: In the production of a titanium soap, the step which comprises mixing an alkali metal soap with a salt of titanium.

Claim 18: As a new article, a composition of matter comprising a soap of a tetravalent element in Group IV A of the Periodic Table.

Claim 19: As a new article, a composition of matter comprising a titanium soap.

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475, 385 — Precipitation of Titanium Compounds.

Claim 2: A process for the manufacture of titanium oxide which comprises mixing a mineral acid solution containing titanium with calcium sulphate and an alkali-precipitated hydrated titanium oxide to supply adsorptive nuclei in said solution heating the charge to precipitate titanium compounds by hydrolysis on said nuclei separating the composite precipitate, washing it substantially free from calcium sulphate, and calcining it at a temperature between 700° C. and 1200° C.

Claim 18: A process for the manufacture of a composite pigment consisting of titanium oxide, calcium sulphate and barium sulphate, which comprises mixing a sulphuric acid solution containing titanium, barium sulphate, calcium sulphate and an alkali-precipitated hydrated titanium oxide, to supply adsorptive nuclei in said solution heating the charge to precipitate titanium compounds by hydrolysis on said nuclei, separating the composite precipitate, washing it and calcining it at a temperature between 700° C. and 1200° C.

424, 439 — Titanium-Zinc Sulphide Pigments.

Claim 1: A process for the manufacture of composite pigments containing zinc sulphide and titanium oxide, which comprises suspending titanium oxide in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended titanium oxide, separating, washing, and calcining the resultant composite precipitate

Claim 2: A process for the manufacture of composite pigments containing zinc sulphide and tita-

nium oxide, which comprises suspending hydrated titanium oxide in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the uncalcined hydrated titanium oxide, separating, washing, and calcining the resultant composite precipitate.

Claim 4: A process for the manufacture of composite pigments containing zinc sulphide, titanium oxide and a white extender pigment, which comprises suspending a previously prepared composite pigment containing titanium oxide and a white extender pigment in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended composite pigment, separating, washing, and calcining the resultant composite precipitate.

Claim 5: A process for the manufacture of composite pigments containing zinc sulphide, titanium oxide and a white extender pigment, which comprises suspending a previously prepared composite precipitate containing hydrated titanium oxide and a white extender pigment in a solution of a salt of zinc, adding a soluble sulphide to precipitate zinc sulphide upon the suspended composite precipitate, separating, washing, and calcining the resultant composite precipitate.

Claim 22: As a new article a composite pigment consisting of zinc sulphide and "Titanox B."

420,811 — Calcination Accelerators.

Claim 4: In the production of titanium pigments from a precipitated and separated titanium

pulp, the steps which comprise treating said titanium pulp by adding thereto normally water-soluble, fusible inorganic compounds substantially non-volatile at calcination temperatures, and calcining same.

Claim 12: In the production of titanium pigments from titanium precipitates, the steps which comprise mixing said precipitates with a solution of normally water-soluble, fusible inorganic compounds substantially non-volatile at calcination temperatures, and calcining the charge.

Claim 22: A titanium pigment characterized as being a substantially neutral, calcined product containing titanium oxide, in form a soft, fine smooth powder, substantially white in color, and composed of minute particles of titanium oxide combined with relatively small amounts of inorganic compounds of the elements of Groups I and II of the Periodic System which are normally water soluble and substantially non-volatile at calcination temperatures.

394,917 — Composite Pigments.

Claim 5: The process for the manufacture of titanium pigments which consists in mixing calcium sulphate with a sulphuric acid solution of titanium to supply adsorptive nuclei therein, elevating the temperature to cause hydrolytic precipitation of titanium compounds on said nuclei, separating the precipitate, washing it substantially free from calcium sulphate and calcining it at a temperature ranging between 700° C. and 1200°C.

Claim 12: The process for the manufacture of composite titanium oxide-barium sulphate pigments which consists in mixing a sulphuric acid solution

of titanium with barium sulphate and artificially prepared calcium sulphate having the crystalline structure of anhydrite, elevating the temperature to cause precipitation of titanium compounds by hydrolysis, separating the composite precipitate, washing it substantially free from calcium sulphate and calcining it at a temperature ranging between 700°C. and 1200° C.

Claim 41: As a new article, a calcined pigment comprising titanium oxide, an extender and calcium sulphate in the crystalline form of anhydrite.

Claim 42: As a new article, a calcined pigment comprising titanium oxide, an extender and calcium sulphate, a part of which is in the crystalline form of anhydrite.

394,918 — Composite Pigments.

Claim 6: The process for the manufacture of composite calcium sulphate-titanium oxide pigments which consists in mixing concentrated sulphuric acid with hydrated lime; mixing the resultant calcium sulphate with a sulphuric acid solution of titanium, elevating the temperature to cause precipitation of titanium compounds by hydrolysis, separating the composite precipitate, washing it and calcining it at a temperature ranging between 700° C. and 1200° C.

Claim 30: As a new article, an uncalcined composite precipitate comprising hydrated titanium oxide and calcium sulphate in the crystalline form of anhydrite.

Exhibit 214

Claim 33: As a new article, a calcined pigment comprising titanium oxide and calcium sulphate, a part of which is in the crystalline form of anhydrite.

183,245 — Treating Ores.

Claim 46: In the method of recovering water soluble titanium compounds from a mixture of titaniferous materials and strong sulphuric acid, the step which consists in introducing water to the mixed charge to initiate the reaction.

Claim 60: In the method of recovering water soluble titanium compounds from a mixture of titaniferous materials and strong sulphuric acid, the step which consists in maintaining the reaction of said mixed charge to substantial completion by successive additions of water to the reacting charge.

Claim 62: The method of recovering water soluble titanium compounds from titaniferous materials in one reaction vessel, which comprises mixing said materials and strong sulphuric acid, intorducing water to the mixed charge to develop the reaction, allowing the reaction to proceed to form a soluble reaction product, and then dissolving this reaction product with water in the same reaction vessel.

574,466 — Obtaining Titanium Compounds From Titanium Solutions.

Nov. 11, 1931

Claim 1: A process for the manufacture of titanium compounds comprising subjecting a titanium sulphate solution with a basicity range of 5% to 50% to hydrolysis in the presence of an acid-binder.

Exhibit 214

Claim 17: As a new and useful article of manufacture, a pulp, formed by hydrolytically precipitating titanium hydrate from a titanium salt solution having a basicity range of from substantially 5% to 50% in the presence of an acid binder.

193,951 — Decomposing Ores and Separating Titanium Compounds from Iron.

Nov. 24, 1927

Claim 1: The process of treating titanium materials containing iron which consists in subjecting said materials and a reducing agent to a temperature sufficiently high to reduce the iron to metallic state but not the titanium compounds, and treating the reduction product with sulphuric acid—sufficiently concentrated to dissolve the titanium compounds present without dissolving the metallic iron.

Claim 2: The process of treating titanium materials containing iron which consists in subjecting said materials and a reducing agent to a temperature sufficiently high to reduce the iron to metallic state but not the titanium compounds, treating the reduction product with sulphuric acid sufficiently concentrated to dissolve the titanium compounds present without dissolving the metallic iron, and thereafter separating the metallic iron from the titanic solution.

Exhibit 215

"CONFIDENTIAL"

September 8, 1932.

MR. C. H. RUPPRECHT,
NEWARK OFFICE.

We have carefully compared the process in operation at the St. Louis plant of the Titanium Pigment Company with the patents owned by the Krebs Pigment & Color Corporation. It is believed that the following Krebs patents are infringed in the operations conducted at St. Louis:

Patent No.	*Date of Patent*
#1,357,690	Nov. 2, 1920
#1,504,669	Aug. 12, 1924
#1,504,670	Aug. 12, 1924
#1,633,621	June 28, 1927
#1,758,528	May 13, 1930
#1,795,467	March 10, 1931
#1,845,633	Feb. 16, 1932
#1,851,487	Feb. 23, 1932

Further study of the above patents and the other Krebs patents may possibly indicate other cases of infringement.

It is apparent also that the process operated at St. Louis probably infringes some of the claims in our pending patent applications. However, it may be necessary to change the wording of some of these claims or possibly cancel some of them altogether in the further prosecution of these applications in the Patent Office; consequently, no final opinion on possible infringement can be given at this time.

Exhibit 215

I am enclosing a complete list of our Titanium Patents; also an abstract of our pending U. S. Applications, giving in each case one or more representative claims.

JAMES E. BOOGE,

RESEARCH DIRECTOR—WHITE PIGMENTS.

JEB:MP

Exhibit 215

U. S. PATENTS ON TITANIUM PIGMENTS OWNED BY KREBS PIGMENT & COLOR CORP.

AUGUST 20TH, 1932

Date	*Inventor*	*Title*
11-2-20	Oscar T. Corfelt.	Process for the Recovery of Titanium from its Ores.
4-1-24.	C. Weizmann and J. Blumenfeld.	Production of Titanic Acid.
8-12-24	J. Blumenfeld.	Titanium Compound.
8-12-24	J. Blumenfeld.	Titanium Compound.
8-12-24	J. Blumenfeld.	Filtration of Solutions.
8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
8-12-24 5-8-28)	J. Blumenfeld.	Titanium Pigment.
9-21-26	W. J. O'Brien	Lithopone and Process.
9-21-26	W. J. O'Brien	Lithopone and Process.
6-27-27	J. Blumenfeld.	Filtration of Solutions, etc.
8-16-27	J. Blumenfeld.	Preparation of Pigments and Paints.
11-15-27	N. Specht.	Process for the Manufacture of Titanic Oxide.
1-10-28	J. d'Ans and F. Somer.	Proc. of Prep. Titanic Oxide from Titanic Ores.
4-2-29	J. Blumenfeld	Proc. for the Manufacture of Titanium Oxide.
4-2-29	C. de Rohden.	Prod. of Titanium Tetrachloride.
3-N-30	N. Specht.	Process of Producing permanent Paints.

Exhibit 215

Number	*Date*	*Inventor*	*Title*
1,758,528	3-13-30	W. Mecklenburg.	Production of Titanium Dioxid
1,766,592	6-24-30	J. Blumenfeld.	Prod. of Composite Pigmen Cont. Titanium Dioxide.
1,795,467	3-10-31	J. Blumenfeld.	Prod. of Titanium Dioxide.
1,797,760	3-24-31	C. de Rohden.	Prod. of Titanium Composition
1,827,691	10-13-31	N. Specht.	Proc. of Treating Ores of Tita nium Containing Chromium an Recovering the Sulfuric Acid.
1,832,666	11-17-31	N. Specht.	Processes for the Mfr. of Brown Pigment Containing Tita nium from Sludge of Titanium.
1,836,275	12-15-31	W. J. O'Brien	Method of Producing improve Lithopone.
1,845,633	2-16-32	N. Specht.	Proc. for the Purification of Im pure Dioxide of Titanium Con taining in Particular Chromium
1,846,188	2-23-32	C.de Rohden.	The Prod. of Titanium Pigments
1,851,487	3-29-32	J. Blumenfeld.	Preparation of Titanium Hydrox ide.
1,864,504	6-21-32	W. J. O'Brien	Composite Pigment.

Exhibit 216

COPY

KREBS PIGMENT & COLOR CORPORATION
256 Vanderpool Street
Newark, N. J.

September 12, 1932.

CONFIDENTIAL

Dr. G. W. Thompson, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:

Reply to your letter of August 26th has been delayed, first due to Dr. Booge's absence, as explained in Mr. Phelps' letter of August 29th, and awaiting my return from vacation today.

In accordance with our conversation of August 16th, I am sending you herewith a list of all issued patents on Titanium Pigments owned by Krebs Pigment & Color Corporation, together with a copy of each patent. I am also sending memorandums of our pending patents on Titanium Pigments, citing descriptive claims in each case.

Attached also find copy of letter prepared by Dr. Booge following discussion with our group, listing those of our patents which in his opinion are being infringed by The Titanium Pigment Company, Inc., in their operations on Titanium Pigments at the St. Louis Plant. Mention is also made in Dr. Booge's letter that no opinion is being

Exhibit 216

presented at this time on infringement of claims in our pending patent applications, due to possible changes in wording, or otherwise, which may be made prior to issuance.

I trust you will find all of the attached in order, and after you have had opportunity to review our memorandums, we will be very glad to arrange for the meeting between Mr. Barton and Dr. Booge, as was suggested in our discussion of August 16th.

Very truly yours,

(Signed) C. H. RUPPRECHT
President.

Exhibit 216

PENDING U. S. PATENT APPLICATIONS OF KREBS PIGMENT & COLOR CORPORATION ON TITANIUM PIGMENTS

SEPT. 12, 1932.

Exhibit 216

COPY

Case 370-K

M. L. Hanahan,
Titanium Oxide Pigments of Fine Texture.
Filed: Aug. 7, 1931
Ser. No. 555,770

Claim 10. A pigment comprising heat treated titanium oxide the particles of which are substantially all of a size below 15 microns.

Claim 13. A pigment comprising heat treated titanium oxide which is free from particles visible to the naked eye and which produces, when ground in oil, a paint which gives films of smooth and glossy appearance, substantially free from speckles and irregularities.

Exhibit 216

COPY

Case 390-K

G. Kubin
Process for reducing the Oil Absorption of
Titanium Dioxide Pigment
Filed: Feb. 16, 1929
Ser. No. 340,652
Allowed: June 9, 1932.

Claim 3. A process for producing titanium dioxide pigment characterized by a low oil absorption which comprises calcining TiO_2 produced by hydrolytic precipitation, wet grinding said calcined TiO_2, drying the same, and grinding said pigment in dry condition.

Exhibit 216

COPY

Case 400-K

H. Haber and P. Kubelka—Production of Titanium Dioxide from Titanium Tetrachloride
Filed: Sept. 3, 1931.
Ser. No. 561,026

Claim 3. In a process for the production of titanium dioxide, the step which comprises reacting vaporized titanium tetrachloride with steam at temperatures of 300° to 400° C.

Claim 5. In a process for the production of titanium dioxide, the steps which comprise separately preheating titanium tetrachloride and steam to temperatures ranging from 300 to 500° C. and introducing said preheated materials into a reaction space heated to a temperature ranging from 300 to 500° C.

Exhibit 216

COPY

Case 401-K

H. Haber and P. Kubelka
Titanium Dioxide from Titanium Tetrachloride
Filed: Sept. 3, 1931
Ser. No. 561,027.

Claim 1. In a process for the production of titanium dioxide, the step which comprises heating vaporized tetrachloride in the presence of free oxygen-containing gases at temperatures in excess of approximately 100° C.

Exhibit 216

COPY

Case 407-K

Joseph Blumenfeld
The Production of Titanium Dioxide
Filed: Apr. 26, 1932
Ser. No. 607,611
Re-issue of Patent #1,795,467.

Claim 1. In a process for preparing titanium dioxide by combining a solution of a titanium salt with a solution of lesser concentration, the step which comprises slowly adding at an elevated temperature the titanium solution to the solution of lesser concentration while agitating the mixture so that colloidal particles of titanium compound are produced prior to actual precipitation.

Claim 17. The process for producing colloidal TiO_2 particles in a titanium sulfuric acid solution which comprises slowly adding said solution to a solution of lesser concentration at an elevated temperature and agitating the mixture during said addition.

Claim 20. The process for producing hydrolytically precipitated titanium dioxide which comprises slowly adding a titanium sulfate solution to a diluent, at an elevated temperature, the mixture being agitated to promote homogeneity, and heating the completed mixture until hydrolysis is substantially complete.

Exhibit 216

COPY

Case 410-K

W. Mecklenburg
The Production of Titanium Dioxide
Filed: April 12, 1932
Ser. No. 604,861
Re-issue of Patent #1,758,528.

Claim 12. In a process for the production of titanium dioxide the steps which comprise adding to a titanium salt solution a seed prepared separately and heating said mixture to produce hydrolysis, said seed comprising a titanium oxygen compound which dissolves on heating in said titanium salt solution.

Claim 15. In a process for the production of titanium dioxide, the steps comprising adding a titanium oxygen compound to a titanium salt solution and heating said mixture to effect hydrolysis, said titanium oxygen compound being at least partly soluble on heating in said titanium salt solution and being further characterized by having been prepared by a process which includes as one of its steps precipitation by the reduction of the acidity of a titanium salt solution by mixing it with a neutralizing agent.

Claim 23. In a process of hydrolyzing titanium sulfate, the steps of reducing the acidity of a titanium sulfate solution by mixing acid solution with a neutralizing agent, thereby precipitating a titanium oxygen compound therefrom, adding said precipitate to a titanium sulfate solution containing more titanium than that added, and heating said mixture to effect hydrolysis.

Exhibit 216

COPY

Case 419-K

Paul Kubelka and Josef Srbek
Rutile Pigments and Process of Making the Same
Filed: Feb. 20, 1932
Ser. No. 594,384

Claim. 5. In a process of producing a titanium dioxide pigment the steps which comprise adding to a titanium chloride solution a seed prepared separately, and heating said mixture to produce hydrolysis, said seed being insoluble on moderate heating in said titanium chloride solution of a low pH until a titanium oxygen compound has been precipitated.
Claim 10. A pigment comprising precipitated and subsequently heat treated titanium dioxide showing a rutile X-ray pattern.

Exhibit 216

COPY

Case 420-K

Paul Kubelka

Method of Dissolving Titanium Tetrachloride in Aqueous Solvents

Filed: Feb. 12, 1932
Ser. No. 592,656

Claim 1. In a process for the preparation of a titanium chloride solution, the step which comprises introducing titanium tetrachloride into an agitated aqueous solvent below the surface of said solvent.

Exhibit 216

COPY

Case 421-K

Paul Kubelka
Process of Preparing Clear Solutions of Titanium Chloride
Filed: Feb. 12, 1932
Ser. No. 592,657

Claim 1. In a process for the preparation of a clear titanium chloride solution, the step which comprises dissolving titanium tetrachloride in a titanium chloride solution containing at least 150 grams of HCl free and combined per liter.

Exhibit 216

COPY

Case 422-K

Paŭl Kubelka
Process of Preparing Concentrated Clear Solutions of Titanium Chloride
Filed: Feb. 12, 1932
Ser. No. 592,658

Claim 1. In a process of preparing an aqueous solution of titanium chloride comprising adding titanium tetrachloride to an aqueous solvent, wherein the solution becomes turbid and precipitates titanium oxygen compounds at low concentrations, the step of adding titanium tetrachloride to said turbid solution.

Exhibit 216

COPY

Case 442-K

Marion L. Hanahan
Processes of Making Titanium Oxide of Fine Texture
Filed: June 16, 1932
Ser. No. 617,577
Division of Case 370-K

Claim 1. The process of separating a calcined titanium oxide pigment into fractions of different particle size which comprises deflocculating a suspension of said pigment in a liquid, elutriating said deflocculated suspension at a predetermined speed of flow and separately recovering the pigment which settled out against the flow in the elutriator and the pigment contained in the overlow from the elutriator.

Exhibit 216

COPY

Case 383-K

C. de Rohden
Production of Titanium Pigments
Filed: Jan. 17, 1928
Ser. No. 247-465
Allowed: June 8, 1932.

Claim 8. A process producing a white pigment which comprises digesting titanium dioxide with dilute hydrochloric acid in the presence of a reducing agent.

Exhibit 216

COPY

Case 394-K

J. Blumenfeld & M. Mayer
Preparation of Titanium Pigments
Filed: May 15, 1930
Ser. No. 452,810

Continuation of cases Ser. No. 2233 and 2234

Claim 23. In a process for the production of a titanium pigment, the steps of suspending a titanium oxygen compound in a solution of a compound of an element selected from the group of elements consisting of the rare earth metals, thorium and zirconium and treating said solution to precipitate an oxygen compound of such element in the presence of said suspended titanium oxygen compound.

Claim 25. In a process for the production of a titanium pigment, the step of calcining a composition comprising a titanium oxygen compound and an oxygen compound of one of the elements selected from the group of elements consisting of the rare earth metals, thorium and zirconium.

Exhibit 216

COPY

Case 384-K

C. de Rohden
Production of Titanium Pigments
Filed: Jan. 17, 1928.
Ser. No. 247,466

Claim 6. A process for producing a white pigment which comprises incorporating about 1% of sodium sulfate with titanium dioxide and calcining the mixture.

Exhibit 216

COPY

Case 391-K

Max Mayer

Art of Producing Oxides of the Fourth Group Metals

Filed: Mar. 14, 1929

Ser. No. 347,192

Allowed: June 24,1932.

Claim 9. In the manufacture of oxides of fourth group metals from fluid halogen compounds of such metals, the method which consists in incorporating said compounds in solid salt non-reactive on said oxides and decomposing said compounds by treating the mass with steam.

Exhibit 216

COPY

Case 395-K

J. Blumenfeld and M. Mayer
Preparation of Titanium Pigments
Filed: May 15, 1930
Ser. No. 452,811

Division of Case 394-K Ser. 452,811 and continuation of Ser. 2233 and 2234

Claim 9. In a process for producing a white titanium oxide pigment, the step of calcining at a temperature upward of about 800° C, a mixture comprising a precipitated titanium oxygen compound and an alkali metal compound.

Claim 13. In a process for producing a white titanium oxide pigment, the steps of incorporating into a precipitated titanium oxygen compound a predetermined amount of a potassium compound and calcining the mixture at a temperature upward of about 800°C.

Exhibit 216

COPY

Case 397-K

R. M. McKinney
Preparation of Stabilized Titanous Salt Solutions
Filed: April 27, 1931
Ser. No. 533,370

Claim 1. A method of producing stabilized titanous solutions which comprises adding stabilizers to titanium solutions, removing the iron compounds from said solutions, and reducing the titanium in said solution to the titanous form.

Claim 11. As a reducing agent an aqueous solution of trivalent titanium containing as a stabilizing agent a compound selected from the group consisting of citric, tartanic, oxalic, lactic, malic and other organic hydroxy-carboxylic acid.

Exhibit 216

COPY

"CONFIDENTIAL"

September 8, 1932.

MR. C. H. RUPPRECHT,
NEWARK OFFICE.

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#1,795,467	March 10, 1931
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It is apparent also that the process operated at St. Louis probably infringes some of the claims in our pending patent applications. However, it may be necessary to change the wording of some of these claims or possibly cancel some of them altogether in the further prosecution of the applications in the Patent Office; consequently, no final opinion on possible infringement can be given at this time.

Exhibit 216

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JAMES E. BOOGE,
RESEARCH DIRECTOR—WHITE PIGMENTS

JEB:MP

Exhibit 216

U. S. PATENTS ON TITANIUM PIGMENTS OWNED BY
KREBS PIGMENT & COLOR CORP.
AUGUST 20TH, 1932

Number	*Date*	*Inventor*	*Title*
1,357,690	11-2-20	Oscar T. Coffelt.	Process for the Recovery of Titanium from its Ores.
1,489,183	4-1-24	C. Weizmann and J. Blumenfeld.	Production of Titanic Acid.
1,504,669	8-12-24	J. Blumenfeld.	Titanium Compound.
1,504,670	8-12-24	J. Blumenfeld.	Titanium Compound.
1,504,671	8-12-24	J. Blumenfeld.	Filtration of Solutions.
Re. 17,429 (1,504,672	8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
Re. 17,430 (1,504,672	8-12-24 9-10-29)	J. Blumenfeld.	Preparation of Titanium Hydroxide.
Re. 16,956 (1,504,673	8-12-24 5-8-28)	J. Blumenfeld	Titanium Pigment.
1,600,772	9-21-26	W. J. O'Brien	Lithopone and Process.
1,600,773	9-21-26	W. J. O'Brien	Lithopone and Process.
1,633,621	6-27-27	J. Blumenfeld	Filtration of Solutions.
1,639,423	8-16-27	J. Blumenfeld.	Preparation of Pigments and Paints.
1,649,496	11-15-27	N. Specht.	Process for the Manufacture of Titanic Oxide.
1,655,940	1-10-28	J. d'Ans and F. Sommer	Proc. of Prep. Titanic Oxide from Titanic Ores.
1,707,248	4-2-29	J. Blumenfeld.	Proc. for the Manufacture of Titanium Oxide.
1,707,257	4-2-29	C. de Rhhden.	Prod. of Titanium Tetrachloride.
1,750,287	3-11-30	N. Specht.	Process of Producing permanent Paints.

Exhibit 217

COPY

"MONTECATINI"
SOCIETA GENERALE PER L'INDUSTRIA MINERARIA ED AGRICOLA

Milan, 21st September 1932.—X°

Dear Mr. Ewing:

Titanium Oxide

You are certainly informed of the very difficult situation which has recently turned out for the above product in the European markets, and you will also know that this product—manufactured through the Blumenfeld patent by the Solvents Corporation—is interesting now, because of some arrangements concluded, your Concern through the Krebs Corporation.

Montecatini is producing titanium oxide in their Bovisa Works exploiting the same Blumenfeld patent and in the past have had friendly relations in connection with this branch of manufacturing with Mr. Tickner, President of the Solvents Corporation.

I have now reasons to believe that in short it will be possible to arrange a conversation between the European producers of titanium oxide by the Blumenfeld patent and the group I.G.—National Lead. In my opinion it would be much advisable—in the interest of both the European producer group and the du Pont de Nemours Concern which are all exploiting the same process of manufacturing—that an exchange of views on the respective principles followed by the above groups should take place. I do not want the relations—if there are any—between Krebs—duPont and

Exhibit 217

National Lead in America, but I would like to learn whether an eventual European agreement between the group of the Blumenfeld patents possessors and the I.G. could present an interest for Krebs—duPont, either in view of the particular situation existing in America with regard to the National Lead, or because of the indirect relations between the Concerns exploiting the both patents.

I wished to expose to you the foregoing as I have the impression that an agreement can only present a serious and efficient character if it is a general arrangement and therefore extended to European and American groups. In this case, the reunion of the possessors of Blumenfeld patents and I.G. patents would allow the concentration of all titanium oxide markets in the hands of the said groups, as no other patents which could industrially compete, exist.

I should therefore thank you to take matters in hand so that you will be in a position to let me know the views of your Company on the foregoing, in occasion of the meeting fixed for the 4th October next. Perhaps you will request an answer by cable in reply to a letter which it would be opportune you write on receipt of this letter to your offices in America.

Yours very truly,

(s) G. DONEGANI

Exhibit 218

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY,

September 23rd, 1932.

TITANIUM OXIDE.

This morning I received a letter from Mr. Donegani, dated September 21st, copy of which I am enclosing. I believe that we know your interests with respect to conversations on patents between the two groups, but in view of Mr. F. W. Pickard's departure for Europe on September 30th, I believe he would prefer that you discuss the whole proposition with him before his departure. I am leaving for Italy for the Board Meeting of the Italian Duco Company on October 2nd and will be in conversation with Mr. Donegani on October 4th. However, in view of Mr. Pickard's arrival and the probability that he will want to discuss the proposition directly, I do not intend to do other than listen to what Mr. Donegani has to say.

The European situation on titanium oxide is very interesting at present and Mr. Donegani's suggestion that the present is the proper time to discuss respective patents may be prompted by the fear that he will lose his 300 or 400 tons export to Great Britain by virtue of the amalgamation which is fast nearing completion, as a result of which there will be a titanium plant established in England. It may be, however, that these conversations are being brought about only through Montecatini's close association with the I.G. as Montecatini now hold 51% interest in the dye industry in Italy with the I.G. as their partners holding 49%.

Exhibit 218

However, a European agreement between the Blumenfeld licensees and the National Lead-I.G. group in Europe would be interesting to observe.

Regarding the titanium plant for England, reference to which was made in Mr. Jenney's letter of September 14th, we met yesterday afternoon with Major Barley, Director of I.C.I's Development Department and Mr. Major of the Foreign Department. Major Barley explained that the amalgamation scheme, including I.C.I., Imperial Smelters, Goodlass, Wall Associated Lead and National Lead, would probably be completed within the next few weeks. Details of the arrangement have not been completed, but the gentlemen from I.C.I. were interested to know how any commitments they might make as minor shareholders in this English company would be construed in the light of the du Pont-I.C.I. Patents & Processes Agreement. It is evident that I.C.I. have the right to apply for a license for our developments up to the time of the formation of Krebs Pigment & Colour Corpn., but with the commitment which du Pont made in the purchase of Commercial Pigments Corporation and the acquisition of the Blumenfeld patents, these and later developments restrict our field accordingly.

Because of the minority holding of Imperial Chemicals in the new amalgamation (they will have only about 17%), there arises the question of passing on to the new company any developments which they obtain from us, as in effect there is no way to restrict these developments from finding their way back to our licensed territory.

The amount of information which I.C.I. might have obtained from us before the formation of Krebs is of doubtful value, and whether they could really restrict information which they now possess in finding its way back may

be, in effect, only an academic discussion. As regards Canada, however, the situation is not clear. The new English company will probably have selling rights in Canada and so far as we are informed will compete with Canadian Industries Limited if that company is manufacturing titanium oxide.

We are uninformed on recent developments in the Canadian situation, more especially as regards the status of the Blumenfeld patents. It is our understanding that during his trip through the United States or on his return from China Mr. Blumenfeld would discuss with Mr. Ticknor the value of the Canadian patents, which at one time were held at a value of $20,000, but which you wish to obtain for about half this figure. We do not know whether you have reached any conclusion with Blumenfeld on the Canadian patents or whether you have made any arrangement with Canadian Industries Limited for the manufacture of titanium oxide.

In this connection there is another view which might have to be considered. We were in conversation with Major Burke** of Travancore Minerals, who advises confidentially that to his knowledge the Canadian patents have not been sold and that Blumenfeld at the present time is sadly in need of cash. He also learns that Blumenfeld is in negotiation with Laporte Company in England, whose works are at Luton, with a view to selling his English patents to this company. As explained in our letter of September 14th, Laporte Company is the only important one manufacturing titanium oxide in England which is not included in the new amalgamation, although Major Barley believes that Laporte will work very closely with the English company. We know further that the Laporte

Company in England has some sort of an arrangement with the Monk-Irwin Company of Canada and that through negotiation with Laporte in England Blumenfeld may decide to sell also his Canadian patents if, in fact, they are still in his possession. All of this is unknown to I.C.I. who believe that there is still an opportunity to negotiate with Blumenfeld for the English patents and bring him into the amalgamation.

At the meeting yesterday with I.C.I. it was apparent that no commitments will be made on the part of I.C.I. with the English amalgamation until the Canadian position, vis-a-vis C.I.L., is completely clear. To this end Major Barley is cabling Mr. Purvis in order that no step will be taken to jeopardize the rights of our jointly owned subsidiary.

We are in constant communication with I.C.I. on this subject and accordingly would kindly ask that you explain the present situation in Canada, which is obviously tied in with the English situation.

We anticipate that the cable which we have sent you today is sufficiently clear to enable you to give Mr. Pickard your fullest views, not only with respect to the Montecatini request but also as regards Canada and the English situation.

HOMER H. EWING.
Homer H. Ewing.

Enclos: Copy of Montecatini letter of Sept. 21.
HHE/HGL.

*I. C. I have no right to pass any information to a company in which they do not hold 51% but they may apply for permission as we have done in connection with our Duco Cos.

HHE

**Do not mention Burke's name regarding **.

Exhibit 218

"MONTECATINI"
Societa Generale per L'Industria Mineraria ed Agricola

Milan, 21st September 1932.—X°

Dear Mr. Ewing:

Titanium Oxide

You are certainly informed of the very difficult situation which has recently turned out for the above product in the European markets, and you will also know that this product—manufactured through the Blumenfeld patent by the Solvents Corporation—is interesting now, because of some arrangements concluded, your Concern through the Krebs Corporation.

Montecatini is producing titanium oxide in their Bovisa Works exploiting the same Blumenfeld patent and in the past have had friendly relations in connection with this branch of manufacturing with Mr. Ticknor, President of the Solvents Corporation.

I have now reasons to believe that in short it will be possible to arrange a conversation between the European producers of titanium oxide by the Blumenfeld patent and the group I.G.-National Lead. In my opinion it would be much advisable—in the interest of both the European producer group and the du Pont de Nemours Concern which are all exploiting the same process of manufacturing—that an exchange of views on the respective principles followed by the above groups should take place. I do not want the relations—if there are any—between Krebs-duPont and National Lead in America, but I would like to learn whether

an eventual European agreement between the group of the Blumenfeld patent possessors and the I.G. could present an interest for Krebs-duPont, either in view of the particular situation existing in America with regard to the National Lead, or because of the indirect relations between the Concerns exploiting the both patents.

I wished to expose to you the foregoing as I have the impression that an agreement can only present a serious and efficient character if it is a general arrangement and therefore extended to European and American groups. In this case, the reunion of the possessors of Blumenfeld patents and I.G. patents would allow the concentration of all titanium oxide markets in the hands of the said groups, as no other patents which could industrially compete, exist.

I should therefore thank you to take matters in hand so that you will be in a position to let me know the views of your Company on the foregoing, in occasion of the meeting fixed for the 4th October next. Perhaps you will request an answer by cable in reply to a letter which it would be opportune you write on receipt of this letter to your offices in America.

Yours very truly,

(s) G. DONEGANI

Exhibit 219

INCORPORATED WITH LIMITED LIABILITY
IN THE STATE OF DELAWARE, U. S. A.

Pigments

September 27, 1932

CONFIDENTIAL

Mr. H. H. Ewing,
E. I. duPont de Nemours & Co.,
Bush House, Aldwych,
London, W. C. 2, England

On the second page of my letter of September 23rd I mentioned that I was sending you copies of correspondence with Dr. Blumenfeld and included copy of letter also dated September 23rd.

This last named letter, however, was not dispatched and herewith I am sending you copy of a letter of September 26th which was substituted. The copy you have dated September 23rd should, therefore, be destroyed. The revised copy as attached does not in any way change the situation and merely represents some rewording.

C. H. RUPPRECHT

CHR:MW

CC: Mr. T. S. Grasselli, Cleveland
Mr. Wm. Richter, Wilmington
Foreign Relations Department, Wilmington

Exhibit 219

CC.: Mr. T. S. Grasselli, Cleveland
Mr. Wm. Richter, Wilmington
Mr. W. D. Ticknor, New York City
Mr. T. R. Hanley, Wilmington

September 26, 1932

Dr. Joseph Blumenfeld,
Societe de Produits Chimiques des Terres Rares,
67, Rue de Prony,
Paris XVII, France

Dear Dr. Blumenfeld:

Your letter of July 27th is received, and I regret that there should be any misunderstanding in your mind relative to Krebs Pigment & Color Corporation entering into an agreement with you and your European associates covering exchange of technical data,

I can only respectfully repeat that the situation as stated in my letter of May 23, 1932, explains our position. Your former agreement with Commercial Pigments Corporation did not permit of assignment and you were informed that it would be necessary to negotiate an entirely new agreement with the Krebs Corporation. It was also clearly explained to you that because of earlier commitments of the duPont Company, it was impossible for the Krebs Corporation to undertake in their entirety such obligations as were covered in your former agreement with Commercial Pigments Corporation.

At my meeting with you in New York in September 1931, we talked over a possible agreement in a preliminary way, and it was understood that you would return for an-

other conference in December 1931, at which time we would discuss the matter further, and outline a plan which could then be submitted to the Board of Directors of the Krebs Corporation for approval.

As you did not pay us this promised visit, I had concluded when writing you on May 23rd, that you were not interested in proceeding further with our negotiations. You undoubtedly realize that because of the changed conditions, a number of new factors must be considered, and it is impossible to attempt by correspondence, an outline of the limited agreement we are now permitted to discuss, but if you care to visit us again we will be glad to go into the matter. Otherwise, a discussion must be deferred until such time as a meeting can be arranged convenient to both parties.

We repeat that we regret there should be any misunderstanding and assure you of our desire to continue on a very pleasant and friendly relationship with you, however, pending another meeting, this subject of an agreement can only be held in abeyance, and meanwhile, with expressions of my kindest regards and greetings to you and Dr. De Rohden, I am,

Yours very truly,

C. H. RUPPRECHT
President.

CHR:MW

Exhibit 220

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 27th, 1932.

Imperial Chemical Industries Ltd.,
Millbank, S.W.1.
Attention Mr. L. J. Greenwood,
Foreign Department.

Dear Sirs,

Confirming various conversations between Major Barley, your department and this office, we take it that the I.C.I. see no objection to our carrying on with Cookson on Duolith for another year.

Titanium Pigments are included in the I.C.I.-duPont agreement. However, upon the formation of the Krebs Pigment & Color Corporation, through which duPont acquired a 70% interest in the Blumenfeld process limited to a territory comprising the United States and certain other countries, assuming at the same time an obligation to pass along new developments in this field to the European licensees, the exchange of information on this subject between I.C.I. and duPont was discontinued. I.C.I. is therefore entitled only to information received prior to the formation of the Krebs Company. However, as I.C.I. contemplate transferring their Titanium information to a company in which they will have less than 51% interest, the terms of the patents and processes agreement will not apply, and I.C.I. will not be entitled to pass to the new company any of the information received from duPont, although the

matter might be arranged by special negotiation. Likewise, under the patents and processes agreement, I.C.I. is not entitled to give any of its own company's developments prior to the time of the formation of the Krebs Pigment & Color Corporation, for use in the United States until making formal offer to duPont.

In view of the above situation, the effect of which is that the terms of the patents and processes agreement have practically ceased to operate in connection with Titanium Pigments, Krebs is free to continue its Duolith agency in England. Nevertheless, when local manufacture commences we shall be anxious to receive your suggestions as to the further development of our own products in this market.

Yours faithfully,

E.I.DU PONT DE NEMOURS & COMPANY

J K JENNEY

JKJ/JDA

Exhibit 221

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter No. 778.

30th, September, 1932.

Mr. W. R. Swint,
Foreign Relations Department,
Wilmington, Delaware.

Titanium Pigments—I.C.I.

We have previously reported the proposed association of white pigment interests in Great Britain and the negotiations between National Lead, Imperial Smelters, Goodlass Wall and I.C.I. which are now approaching completion. We have also reported that I.C.I.'s interest in the new company to be formed, namely British Titan Products Ltd., will amount to not more than 17%, this being, in their view the only practicable way for them to enter the field of titanium white in the British Empire. This Company will operate only in the British Empire (excluding Canada) and Egypt but the intention is to arrange for I.C.I. to license the British Titan Products Ltd. and, through that Company, its associates, the National Lead Company and Titan G.m.b.H. (I.G.) under any future process in connection with titanium oxide and pigments.

The Du Pont-I.C.I. agreement of July 1st, 1929 entitles I.C.I. to receive from Du Pont an exclusive license to manufacture and sell in the British Empire pigments made in accordance with the processes used by our Company, subject to a reservation in respect of titanium pigments as a result of our commitments through Commercial Pigments Company with Blumenfeld.

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In order that there may be no misunderstanding in respect of the obligations of the I.C.I. Du Pont agreement, they now ask us to report the matter fully to Wilmington and especially to call to your attention the intended license arrangements and interchange of technical information between I.C.I. and the British Titan Company. In view of the final negotiations now proceeding they hope to obtain your early advice as to any restrictions which we believe should be placed on the use by I.C.I. in the above connection of:—

(a) Information obtained by I.C.I. from Du Pont previous to organisation of Krebs Co.

Have we any objection to I.C.I. passing along our information to the new company who are obligated to pass information to National Lead for use in the United States?

(b) Information on previous I.C.I. pigment work passed to Du Pont.

Have we any objection to their passing along their own information to National Lead for use in the United States since we have an option to an exclusive License on this?

In a discussion of this subject with Mr. Major he asked whether he was correct in believing that I.C.I. was free to turn over their information to a company in which they own a 17% interest, and that they still retain their right to take over our business in the British Empire as provided in

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the agreement. We replied that in view of the cessation of exchange of technical information there was no basis on which they could acquire licenses and, in addition, I.C.I.'s interest of less than 51% excluded it from the agreement. We stated, on the other hand, that we did not believe that this specific case was one of practical importance in view of the fact that we are only free to export to British Empire countries until Blumenfeld sells the British Empire rights to his process and in addition it was quite likely that local manufacture would make it impossible to import. If the new Company desires to take over such business as we have developed it should be made a matter for special negotiation and considered on its own merits.

As we understand that the information on titanium now in I.C.I.'s possession is a matter of no practical importance to us, it seems scarcely likely that we can raise an objection to I.C.I. issuing the proposed license to the new Company.

We shall expect to receive your formal consent in due course unless we receive a short cable to the contrary.

Copy of letter containing I.C.I.'s formal request will be forwarded in the next mail.

J. K. JENNEY

J. K. Jenney

Exhibit 222

COPY

Rm. 1823

October 3, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Brooklyn, N.Y.

Dear Dr. Thompson:

I have studied the claims of the patents owned or controlled by the Krebs Pigment and Color Corporation and have prepared a memoranda, which is attached, hereto.

I have not paid attention to their pending patent applications, as I do not have a copy of their letter to you of recent date which contained a few selected claims of each application.

It seems to me that it would be decidedly to our advantage for the representatives of Krebs Pigment and Color Corporation and the Titanium Pigment Company, Inc., to get together and agree in substance as to what claims of all existing patents are being infringed. Once this point is established, I would suggest that we agree to discontinue infringing each other's patents. Before taking this stand, I would like to have an opportunity to explain to the members of the Technical Committee just why I feel we can produce economically a satisfactory product without infringing any of the Krebs Pigment and Color Corporation's patents. On the other hand, I believe they would have great difficulty in operating so as not to infringe our patents, particularly the ones covering basic solutions, crystal-

lization of ferrous sulphate, and the Goldschmidt Patent on a pigment containing a crypto-crystalline titanium dioxide. According to Dr. Booge's own statement, it would cost them, with their present production, over $150,000 a year if they were obliged to use acid solutions. Consequently, the writer believes that if they continue to use this patent, they should pay the Titanium Pigment Company, Inc., a very substantial royality.

There is also the question of whether they would be able to produce a satisfactory pure TiO_2 from a solution containing large quantities of ferrous sulphate without infringing some of our pending patent applications. These applications are ready for issue, so may be considered as granted.

Yours very truly,

W. F. WASHBURN
Asst. General Manager

WFW:MCY
Encl.

Exhibit 222

MEMORANDA ON PATENTS OWNED OR CONTROLLED BY KREBS PIGMENT AND COLOR CORPORATION

Coffelt Patent 1,357,690—November 2, 1920:

It is believed that Claim 1 of this patent, which we are alleged to infringe, is invalid.

There are many references in the art which show that it was well known practice to dissolve Ilmenite in sulphuric acid. Most references; for instance, Spence, Weintrube, and Jebsen, state that concentrated acid may be used. The concentration specified by Coffelt, 77% to 85%, includes one grade of so-called "concentrated acid," i.e., 60°.

In this connection, it is interesting to note that if Ilmenite is decomposed with 66° acid in a closed container, the water formed by the reaction would bring the strength of the acid within the range specified by Coffelt.

In order to ascertain whether or not we are infringing the Coffelt Patent, I have had analyses made of the mixture in our digestion tank at the start of thickening. The first analysis showed 88.14% H_2SO_4, and 0.8% TiO_2. Another sample taken 2 minutes before reaction gave 85.26% H_2SO_4, and 1.41% TiO_2. The following morning additional samples were taken and were found to be as follows:

During thickening—H_2SO_4, 86.7%; TiO_2, 1.02%. One minute later—H_2SO_4, 86.2%; TiO_2, 1.28%. In another test the following results were obtained: H_2SO_4, 83.7%; TiO_2, 0.95%. An additional sample taken only a moment before violent reaction gave the following: H_2SO_4, 76.6%; TiO_2, 1.46%; Fe_2O_3, 49.0%.

It follows from the above, that we do not infringe Claim 1 of this patent. It is true the acid concentration drops after the reaction commences, which naturally is to be expected, as water is formed during the reaction.

U. S. PATENT 1,504,669—AUGUST 12, 1924:

Claim 2, "Producing titanium hydroxide of constant chemical and physical properties by the hydrolysis of crystalloid titanyl sulphate solutions substantially devoid of Tyndall effect, as described."

The freshly made titanic sulphate solutions used in our process are substantially devoid of Tyndall effect. As we have used such solutions continuously since 1918, we certainly can not be prevented from continuing to do so by a patent issued in 1924.

U.S. PATENT 1,504,670—AUGUST 12, 1924:

Claim 1, "In the process of producing crystalline titanyl sulphate from material containing titanium, the steps of mixing the said material with sulphuric acid, heating the mixture initially to a temperature of at least 130° C and gradually increasing the temperature to a maximum of 220° C."

This claim is anticipated by U.S. Patent 1,014,793, Weintrube; and U.S. Patent 1,383,819, Jebsen. Furthermore, the temperature range specified is that which has

been in continuous use prior to 1918, and until the digestion furnaces were replaced by the digestion tanks.

It is believed this claim is invalid and could not be sustained.

U.S. PATENT 1,633,621—BLUMENFELD:

It is alleged we infringe Claim 7. This claim covers any clarified solution of titanium and iron sulphate. It is well known that such solutions have been used since the manufacture of titanium pigments were placed on a commercial basis.

The solution prepared according to U.S. Patent 1,276,644—Goldschmidt, would be described by Claim 7. In both patents, it is to be noted that the clarification is facilitated by the liberation of a colloidal substance carrying an electric charge of opposite sign to that of the suspended impurities. As the Goldschmidt Patent was issued several years before Blumenfeld, there can be no question of any infringement by us.

U.S. PATENT 1,758,528—MECKLENBURG—MAY 13, 1930:

Inasmuch as all claims in this case are limited to a hydrogen-ion concentration of pH 2.5 to 6.0, our process does not, in any way, infringe. Our accelerator solution was recently analyzed and found to contain 5.4% H_2SO_4 and had a pH of approximately 1.

It is well known to all skilled in the art that the practice we developed in 1918, and which has been followed continuously, of adding a solution of sodium carbonate, prior to precipitation, to the titanic sulphate solution, in reality forms orthotitanic acid, which redissolves forming a colloidal solution which is analogous to adding a "seed suspension" to the titanic sulphate solution.

Exhibit 222

U.S. PATENT 1,795,467.

It is alleged that we infringe Claims 1, 2, 3, 4, 8, 9, 13, and 14 of this patent. In this connection, I would like to ask Dr. Booge to explain why he believes we are infringing this patent. He certainly cannot consider the formation of our accelerator as an infringement, as we add titanic sulphate solution to lime water.

Since the manufacture of titanium pigments was commenced, it has been the practice to combine a solution of titanic sulphate with a solution of lesser concentration; for instance, the solution from the reduction tanks was added to a solution of lesser concentration; i.e., the wash water used for washing residues, also a certain amount of weak acid from the end of precipitation. It is well known that both these materials contain colloidal particles of TiO_2 which act as a precipitation accelerator.

The addition of a definite quantity of titanic sulphate solution to our suspension of Blanc Fixe containing sodium sulphide, results in the formation of collodial titanium. This is, in all probability, a partial explanation of why it was considered that Blanc Fixe prepared by the alkaline process was much superior to that prepared by the acid process. We have since found that by the addition of sodium salts, acid Blanc Fixe could be successfully used, although it requires a somewhat higher temperature.

Much more could be said in this connection, but further amplification is not considered necessary. (See U. S. Patent 1,288,863—Fladmark. Lines 25-30.)

U. S. PATENT 1,845,633—SPECHT—FEBRUARY 16, 1932:

I do not understand how we are infringing Claim 5 of this patent in any way. It is true we do add salts to our

pigment pulp, prior to calcination, but as we have followed this procedure since 1917, we certainly cannot be deprived of the right to continue to do it.

The addition of alkaline earth compounds is not new. For instance, see U. S. Patent 1,361,866, Jebsen; and 1,343,469, Nielsen and Goldschmidt. It is true that the object of the additions may not have been made for the purpose of reacting with chromium, but it was well known that such additions imparted certain desirable properties to the pigments, although pigments of satisfactory color have been made by us which have not been so treated.

U. S. PATENT 1,851,487—BLUMENFELD—MAY 29, 1932:

It may be true that our process for making pure TiO_2 infringes certain claims of this patent, but it is not admitted that the patent is novel over the prior art. This is clearly demonstrated in the specification as issued; for instance, lines 75 to 100. The claims which we may possibly infringe are 2, 3, 4, 5, 7, 8, 12, 14, and 15.

It is well known that the product in the precipitation tanks after the addition of sodium carbonate solution, contains collodial titanium dioxide. This can easily be demonstrated.

Claim 10, "A stable solution containing collodial titanium dioxide in the presence of titanium sulphate irons," is not novel, it having been used by us, to my personal knowledge, since 1918.

Claim 16 is not novel, as our solutions, when ready for precipitation, contain colloidal titanium capable of passing through a filter and of being coagulated by boiling with hydrochloric acid.

WFW:MCY

Exhibit 223

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

October 3rd, 1932.

C. H. Rupprecht,
Krebs Pigment & Color Corp'n.
Newark, N. J.

With reference to your letter of September 22nd, Titanium Plant—England, I.C.I. are taking a passive attitude about bringing Blumenfeld into the group which is to organize British Titanium products. They have written Weismann who is acting as Blumenfeld's agent in the matter, hinting that they would be receptive to a request from him to join, but apparently he has not taken the hint; and as we subsequently reported, it seems possible that the Blumenfeld interests are carrying on negotiations with La Porte. This does not disturb I.C.I. at all as they apparently have a commercial understanding with La Porte on future developments of Titanium products in this market. We in this office shall do nothing to further this matter unless we hear from you.

We also have your letter to Mr. Ewing of September 23d with respect to his cable reporting receipt of a letter from Mr. Donegani, suggesting a possibility of arranging for conversations between the Blumenfeld and I.G. Titanium groups, which I am acknowledging in his absence. You have no doubt received his letter confirming his cable by this time, which should clear up the questions raised on Page 3. The conference, as we understand it, is not to discuss any specific existing patent so much as a general arrangement for closer technical cooperation. Presumably

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this conference is the result of a desire by Montecatini and the I.G. to get closer together on this subject in view of the closeness of their relations in some other industries.

We fully appreciate that you have no direct interest in these negotiations, but knowing of your interest in coming to an understanding on patent infringements with National Lead, and that National Lead was somewhat restricted in its freedom of action by its European connections, we believed that you would be most interested in knowing of the possibility of a closer union of interests on this side, and we considered it desirable to cable you so that you could discuss the situation fully with Mr. Pickard before he sailed.

J. K. JENNEY

JKJ/EW

Exhibit 224

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter. No. 779

4th, October, 1932.

Mr. W. R. Swint,
Foreign Relations Dept.,
Wilmington.

Titanium Pigments.

Further to our letter of September 30th we attach hereto original letter received from I.C.I. Foreign Department, addressed to Mr. Ewing, for your files.

J. K. JENNEY.
J. K. Jenney.

Enc.
JKJ/PR.

J. K. JENNY

Exhibit 224

Letterhead of

IMPERIAL CHEMICAL HOUSE

29th September, 1932.

Dear Mr. Ewing,

TITANIUM PIGMENTS.

You have been aware since the early months of the current year of the proposed association of White Pigment interests in Great Britain, and the negotiations between the National Lead Corporation—I.S.C. (Imperial Smelters Corporation)—Goodlass Wall & Co. and I.C.I. which have taken place over the ensuing nine months. These negotiations are now approaching completion. You have also been informed that our interest in the new Company to be formed, namely, British Titan Products Limited, will probably amount to not more than 17%. This is in our view the only practicable way for us to enter the field of Titanium White in the British Empire.

As explained at the recent discussion with yourself, Major Barley and the writer, British Titan Products Limited will only operate in the British Empire (excluding Canada) and Egypt, but the intention is to arrange for I.C.I. to licence the British Titan Products Limited and through that company, its associates, the National Lead Company and the Titangesellschaft, under any future process in connection with titanium oxide and pigments.

The du Pont/I.C.I. Agreement of July 1st, 1929, entitles I.C.I. to receive from du Pont an exclusive license to manufacture and sell in the British Empire, pigments made in accordance with the processes used by your Company,

Exhibit 224

there being a reservation in respect of Titanium Pigments as a result of your commitments with Commercial Pigments Co. and others.

It is clear from previous correspondence that you have from time to time kept Wilmington informed as to our intention to interest ourselves in the White Pigment industry in the territory above referred to. However, in order that there may be no misunderstanding in respect of the terms of our licence agreement with you, we would now ask you to report fully on this matter to Wilmington, and especially to call to their particular attention the intended Licence arrangement and interchange of technical information between I.C.I. and the British Titan Company.

In view of the final negotiations now proceeding in regard to the British Titan Products Limited, I hope you will be able to obtain early intimation from Wilmington as to any restrictions which should in their view be placed on the use by I.C.I. in the above connection, of:

(a) Information obtained by I.C.I. from du Pont.

(b) Information on previous I.C.I. pigment work passed to du Pont.

Yours very truly,

MAJOR

H. H. Ewing, Esq.,
Messrs. E.I. du Pont de Nemours & Co. Ltd.,
Bush House,
Aldwych,
LONDON, W.C.2.

Exhibit 225

Dr. G. W. Thompson, October 8, 1932.
Building.

Dear Mr. Thompson:

The enclosed notes pertain entirely to the subject of alleged infringement by us of a group of eight patents owned by the Krebs Pigment & Color Corporation. My general conclusion is that we do not infringe any of these patents.

In the spirit of our negotiations with the duPont Company, there is another angle from which this group of patents and others should be very carefully considered, namely, their status with respect to possible future operations of others than ourselves. While some of the patents appear to be either invalid or non-controlling in view of the prior art, there are some which may be of considerable importance to all concerned; for example, Blumenfeld U. S. Patent No. 1,795,467, March 10, 1931.

While Patent No. 1,795,467 is non-controlling in respect to our practice in view of our own patents and long industrial use of the subject matter, prior to the date of the patent, it does not necessarily follow that the patent is invalid in respect to possible futire operations of others. My tentative conclusion is that this patent is valid in respect to the operations of all others than ourselves and the du Pont Company.

Among the applications of the Krebs Pigment & Color Corporation now being prosecuted in the United States Patent Office are some which in all probability will never develop into patents, others that are unimportant even if granted, but there are a number that are very interesting and may be important if patents are granted.

Very truly yours,

LEB/F
Enc.

L. E. Barton

Exhibit 225

NOTES ON ALLEGED INFRINGEMENT OF PATENTS

*****

Coffelt, U. S. Patent 1,357,690, Nov. 2, 1920.

From our study of this patent and prior art literature in connection with Coffelt's claim of infringement I believe the patent is invalid. However, we do not so treat ilmenite.

Blumenfeld, U. S. Patent 1,504,669. Aug. 12, 1924.

Claim 2 referring to the production of titanium hydroxide "by hydrolysis of crystalloid titanyl sulphate solutions substantially devoid of Tyndall effect *as described*" involves both preparation of the solution as described in this patent and the hydrolysis of a crystalloidal solution. We do not use the process "as described" but we have for many years prior to Blumenfeld's patent made solutions on an industrial scale under our own patents which I believe were substantially devoid of Tyndall effect and from which we precipitated hydrated titanium oxygen compounds.

Blumenfeld, 1,504,670. Aug. 12, 1924.

Since we do not produce crystalline titanyl sulphate we do not infringe the process of Claim 1.

Blumenfeld, 1, 633,621. June 28, 1927.

Solutions "substantially free" from colloidal suspended matter have, for years prior to Blumenfeld's patent, been industrially made and used by us. For example, under our Goldschmidt, U. S. Patent 1,276,644, Aug. 20, 1918.

Mechlenburg, U. S. Patent 1,758,528, May 13, 1930.

I believe we have never operated the process indicated in Claims 4 and 18 or produced the compositions described in

Claims 1, 2 and 17; however, this should be checked by reference to Mr. Washburn.

Blumenfeld, U. S. Patent 1,795,467, March 10, 1931.

It has long been known to us to precipitate titanium by hydrolysis by adding a titanium sulphate solution to water or a solution of lesser concentration while heating and agitating the solution. Such a process was industrially operated by us for years prior to Blumenfeld's patent which thus is inoperative as regards our practice.

Specht U. S. Patent 1,845,633, Feb. 16, 1932.

The claims of this patent are limited to purification of titanium dioxide from chromium which element I believe is not present in titanium precipitates calcined in our manufacturing processes; but even if present the St. Louis operation of heating titanium compounds in presence of a small amount of alkaline sodium phosphate is practiced under our Patent 1,412,027, April 4, 1922, Claim 1 of which covers the process of heating titanium oxygen compounds with any compound of phosphorus.

Blumenfeld U. S. Patent 1,851,487, Mar. 29, 1932.

Claims 2, 3, 4, 5, 7, 8, 12, 14 and 15 referring to "separately prepared" titanium solutions should be referred to Mr. Washburn in view of his use of "accelerator" in the hydrolysis of titanium solutions.

Solutions such as indicated in Claims 10, 11 and 16 I believe have been unavoidable in our practice of many years involving the handling of relatively dilute solutions at various stages of the processes.

G.W.T.
W.F.W.
A.S.M.
L.E.B

L. E. BARTON.

Exhibit 226.

COPY

F. W. Pickard
H. H. Ewing
P. H. Chase.

Pigments

14, Rue Lincoln, Paris.

October 10th, 1932.

MEMORANDUM

In the afternoon of Saturday October 8th, 1932, a meeting took place at the Hotel Meurice, in Paris between Mr. Pickard and Mr. Donegani. Were also present, Mr. Ewing and Mr. Chase.

After a talk on generalities, during which Mr. Donegani expressed his opinion that Europe would never pay its debts to America, the conversation veered to Titanium.

Mr. Donegani stated that Blumenfeld had lost a great deal of time in exploiting his Titanium patents. For about five years, he did not do much with them, allowing the I. G. to come into the field and to compete with the holders of the holders of the Blumenfeld patents sooner and more intensively than it would have otherwise. The first licensees were the French, who have built a plant having a capacity of from half a ton to a ton. Aussig came next and have built in Czechoslovakia works having about the same capacity as the French. Montecatini then secured the license of the Italian patents and have built works having a capacity of from seven to eight tons; they produce on the average of four to five tons. The American patents were then sold to the Commercial Pigment Corporation, which has since become part of the Krebs Pigment and Color Corporation.

On the other hand, I. G. have also been working on the problem and have developed a process, while making arrangements with the Norwegians and also with National Lead.

According to the Blumenfeld patents, Montecatini should only sell in Italy, but they have obtained from Blumenfeld license to sell in England, the market of that country being very interesting. That license was for a certain number of years and is to expire very soon. On the English market, Montecatini has met with the competition of the I.G. and the very profitable business which it enjoyed there has considerably decreased, there being a price war between I. G. and Montecatini. As a result of this, Montecatini has approached the I. G., pointing out that an agreement as to prices would be profitable to all of them. From such overtures, which were very well received, it came to be suggested that all the Titanium producers in Europe, and possibly also those in the United States, might pool their patents, this being supplemented possibly by a price agreement.

Montecantini has been in touch with the French and the Czechoslovakians who are in agreement. Mr. Donegani was therefore asking us if the Krebs Corporation, as holders of the American Blumenfeld patents, were also willing to come in, so that the whole group of Blumenfeld licensees could talk to the other group.

Mr. Donegani was told by Mr. Pickard that the du Pont Co. always looked favorably on any measure which was for the good of an industry and that the pooling of patents might probably be a very good thing. As to whether or not our Company can be a party to such pooling of patents, opinion of our Legal Dept. would have to be obtained. Mr.

Exhibit 226

Donegani having inquired as to whether we would consider going into a price agreement, it was explained to him that this would be absolutely illegal, according to American laws, and that, therefore, we would not be interested.

Summing up the situation, Mr. Donegani stated that he understood that we had no fundamental objection to a talk with the other group of Titanium producers regarding the pooling of patents, but that we were first to inquire into the legal situation to find out if we might even consider such a possibility. Regarding price agreements, which would take place between European producers, we were precluded from taking any share in them, due to American laws. He was told that the situation, as summed up by him, was correct.

PHC/GB

Exhibit 227

October 11, 1932.

Dr. G. W. Thompson,
Building.

Dear Dr. Thompson:

Enclosed is a copy of Titanium Pigment Company, Inc. pending applications for patents to which the date of the application has been added.

This is the information you wanted to pass on to the Krebs Pigment & Color Corporation.

Very truly yours,

L. E. BARTON.

LEB/F
Enc

Exhibit 227

MEMORANDUM

TITANIUM PIGMENT COMPANY, INC.

UNITED STATES PATENTS PENDING

Application No.	*Title*	*Appl. Date*
576,198	Composite Pigments	Nov. 19, 1931
580,725	Paints Containing Lead Titanate.	Dec. 12, 1931
572,439	Paper Containing Titanium Pigments.	Oct. 31, 1931
569,264	Alkali Titanate Process.	Oct. 16, 1931
528,964	Application of Titanium Soaps.	Apr. 9, 1931
518,898	Mixed White Pigments.	Feb. 27, 1931
525,605	Mixed White Pigments.	Mar. 26, 1931
555,529	Titanium Pigments Containing Lead Titanate.	Aug. 5, 1931
509,264	Titanium Soaps.	Jan. 16, 1931
475,385	Precipitation of Titanium Compounds	Aug. 14, 1930
424,439	Titanium-Zinc Sulphide Pigments.	Jan. 29, 1930
420,811	Calcination Accelerators.	Jan. 14, 1930
394,917	Composite Pigments.	Sept. 24, 1929
394,918	Composite Pigments.	
183,245	Treating Ores.	Apr. 12, 1927
574,466	Obtaining Titanium Compounds from Titanium Solutions.	Nov. 11, 1931
193,951	Decomposing Ores & Separating Titanium Compounds from Iron.	Mar. 24, 1927

Exhibit 228

October 11, 1932.

Mr. Washburn
Mr. Barton
Mr. Moses.

Experimental draft of letter to be considered at Technical Committee, October 13, at 11 A. M.

G. W. THOMPSON

Exhibit 228

(Draft) October 11, 1932.

Dear Mr. Rupprecht:

We have been very carefully considering the claims made respectively by Krebs Company and ourselves of patent infringements of their patents by ourselves and Krebs Company respectively. In this letter I am proposing and carrying out what seems to me to be the most practical next step in our negotiations. I am therefore doing two things: I am laying down, first, certain principles on which I think these infringements should be considered. Second, I am giving you a reply to the claims made of the specific infringements covered in your letter of and I think prepared by Dr. Booge. The principles which we have attempted to follow and which I think should be followed by both of us in the next step, are these:

Both of us should assume that the validity of the patents claimed to be infringed should not be questioned except as a last resort.

The answers to the claims of infringement should be in the following form:

1. Simple admission of infringement.
2. Admission of infringement but agreeing in the future to desist.
3. Denial of infringement on account of prior use.
4. Denial of infringement by citation of coverage by prior patent or patents.

Taking now the patents which you claim we are infringing:

Exhibit 228

U. S. Patent 1,357,690—Coffelt.

We have no knowledge of having infringed this patent. If, however, we have infringed we agree to desist.

According to the Washburn Tank Method, ilmenite is treated with 66° acid and to start the reaction some water is added. This reduces the strength of the acid and in the future it will be easy for us to avoid an addition of water in amount that would dilute the acid and bring it within the scope of this patent. It should be borne in mind that in interpreting this patent we understand that Coffelt claims better results are obtained by treating ilmenite with certain strengths of acid. When sulfuric acid acts upon ilmenite some of the SO_3 is removed. We are assuming there would be no claim made that when SO_3 is removed, with the consequent reduction in strength of the remaining acid, that acid of that lower strength, which might come within the limits of Coffelt's patent, would be considered as really within the scope of said patent.

U.S. Patent 1,504,669—Blumenfeld.

We do not believe that we are infringing this patent. Claim #2 is the one indicated as being infringed. Freshly made titanic sulfate solutions used in our process are substantially devoid of Tyndall effect and we have used such solutions continuously since 1918. Furthermore, as this claim refers to a process as described and we do not use such a process, we cannot see how this patent is being infringed.

U.S. Patent 1,504,670—

It is alleged that we are infringing Claim #1. This claim is anticipated by U. S. Patent 1,014,793—Weintraub,

and U.S. Patent 1,333,819—Jebsen. Furthermore, the temperature specified is that which has been in continuous use since prior to 1918 and until the digestion furnaces were replaced by digestion tanks.

U.S. Patent 1,633,621—

It is alleged that we are infringing Claim #7. The solution prepared according to U.S. Patent 1,276,644—Goldschmidt, issued prior to this Blumenfeld patent is described by Claim #7. In both patents it is to be noted that Clarification is facilitated by the liberation of a colloidal substance carrying an electric charge of the opposite side to that of the suspended impurities. At the present time glue is used for this clarification and has been in use for many years. At all times the solutions used have been those which can be characterized as being substantially free from suspended or colloidal matter.

U.S. 1,758,528—Mecklenberg.

Inasmuch as all claims in this case are limited to a hydrogen ion concentration of pH 2.5 to 6.0, our process does not in any way infringe. Our accelerated solution was recently analyzed and found to contain 5.4 H_2SO_4 and had a pH value of approximately 1. In the process developed in 1918, which has been followed substantially continuously, the addition of a solution of sodium carbonate prior to precipitation in reality forms ortho-titanic acid which redissolves forming a colloidal solution which is analogous to the adding of a seed suspension to titanic sulfate solution. The Mecklenberg patent is therefore not infringed either as to pH concentration and in view of prior practices.

Exhibit 228

U.S. Patent 1,795,467

It is alleged that we are infringing Claims 1, 2, 3, 4, 8, 9, 13, and 14. We cannot at the moment understand how it can be claimed that we are infringing this patent. It certainly cannot be considered that the formation of our accelerator is an infringement as we add titanic sulfate solution to lime water. Since the manufacture of titanium pigments were commenced it has been our practice to combine a solution of titanic sulfate with a solution of lesser concentration. For instance, the solution from the reduction tanks was added to a solution of lesser concentration by using the wash water used for washing residues; also a certain amount of weak acid from the ends of the precipitation. It is well known that both of these materials contain colloidal particles of TiO_2 which act to accelerate precipitation. The addition of a definite quantity of titanic sulfate solution to our suspension or to blanc fixe containing sodium sulfide results in the formation of colloidal titanium. We ask you to consider U.S. Patent 1,288,863—Fladmark, lines 25 to 30.

U.S. Patent 1,845,633

It is claimed we are infringing Claim #5 of this patent. It is true that we add salts to our pigment pulping prior to calcination but we have followed this procedure since 1917. The addition of alkaline earth compounds is referred to in U.S. Patent 1,361,866—Jebsen and 1,343,469—Nielson and Goldschmidt. This patent refers to the purification of titanium oxide by combining chromium, if present, with certain addition agents. The addition of small amounts of alkaline sodium phosphate is covered by Patent 1,412,027 and antedates Patent 1,845,633 covering the use of any compound of phosphorus.

Exhibit 228

U.S. Patent 1,851,487

It is claimed that we are infringing Claims 2, 3, 4, 5, 7, 8, 12, 14, and 15 referring to separately prepared titanium solutions which are used as accelerators. It can be easily demonstrated that the product in the precipitation tanks after the addition of sodium carbonate solution contains colloidal titanium dioxide. In general we claim that this patent is not infringed in view of prior use substantially of the methods now in use dating back to the prior to this patent 1,851,487.

You will note that we have endeavored to follow the rules laid down at the beginning of this presentation. We are very glad to present these answers to your claims of infringement and would be glad, if this procedure commends itself to you, to receive answers to our claims of infringement of our patents by the Krebs Company, or along any lines which commend themselves to you. If you do not approve of this method of procedure, we shall be very glad if you would suggest any other method that seems to you better and we shall be glad to conform to your wishes. I think that the above plan is in full accord with the original scheme which we agreed upon.

Yours very truly,

Exhibit 229

FILE COPY

Copies to:—
G.W.White, Mgr., I.C.I., New York,
E.C.Thompson, V.P., Grasselli Co., Cleve., O.,
C.H.Rupprecht, Pres., Krebs Corp., Newark, N.J.,
Development Dept., Building.

Letter No. 473

October 12, 1932.

J. K. JENNEY—LONDON OFFICE.

TITANIUM PIGMENTS—I.C.I.

Referring to your letter of September 30th, No. 778, and replying to the specific questions on the second page, in principle, we have decided objections to I.C.I. passing on to a company, in which they have a minority interest, information which will, in turn, be passed on to our competitors in the United States. This applies both to information which they have received from us and which they, themselves, have developed.

It is perfectly true that in the present case the information in question is of little practical importance, and from this standpoint we would be harmed little, if any, by having either our own information or I.C.I.'s information (limited to that previous to organization of Krebs Corp.) passed to competitors, but by the same token, it can be of little value to I.C.I. to have the rights which they request. Under these circumstances, unless I.C.I. put real weight on the matter, we would prefer to abide by the principles involved and request that they refrain from licensing the new com-

pany on any such information. If I.C.I. do make such a point and wish to claim special and specific information in this case, please advise us and we will consider the matter further.

In discussing this general question with Mr. Mitchell while he was in Wilmington yesterday, he gave me to understand that British Titan Products Ltd. has been organized solely for the purpose of exploring the possibilities and there is no commitment whatever to building a plant. Furthermore, he intends to investigate this matter personally when he returns.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, Director.

WRS/C

P.S.—A further consideration, for your own confidential information, is that it is not unlikely that some sort of an arrangement will be arrived at for cross-licensing between National Lead and ourselves here, which would set the whole matter straight.

10/12/32

P.S. for Mr. G. W. White:—

The attached is in connection with a formal request from I.C.I.—London, forwarded through our London Office, in which they ask our advice as to any restrictions which we believe should be placed on the use by I.C.I., in connection with proposed licenses to be issued by I.C.I. to British Titan Products Ltd., with respect to:—

Exhibit 229

(a) Information obtained by I.C.I. from du Pont previous to organization of Krebs Co.

Have we any objection to I.C.I. passing along our information to the new Company who are obligated to pass information to National Lead for use in the United States?

(b) Information on previous I.C.I. pigment work passed to du Pont.

Have we any objection to their passing along their own information to National Lead for use in the United States since we have an option to an exclusive license on this?

W.R.S.

WRS/C

Exhibit 230

Copies to:—
Lammot du Pont, President,
J. T. Brown, Vice President,
J. E. Crane, Vice President,
Dr. F. Sparre, Dir., Development Dept.

October 20, 1932.

C. H. RUPPRECHT, PRESIDENT
KREBS PIGMENT & COLOR CORPORATION,
NEWARK, N. J.

At a meeting, on October 11th, Mr. Mitchell and Mr. White, of I.C.I., discussed with various du Pont representatives a number of subjects. Mr. White took some notes of this meeting, from which I quote for your information:—

"Titanium

DuPont mentioned in passing that they have not been making very much progress in the way of exchanging information with their European associates. They felt that it was not beyond the bounds of possibility that they might graduate towards some form of arrangement with the National Lead Company. Mr. Mitchell mentioned the small exploratory syndicate, which included National Lead associates, that had been formed in England and in which I.C.I. had a minority interest."

As a matter of fact, this does not adequately describe the conversation as I went into considerable detail in explaining to Mr. Mitchell our position with respect to patents both here and in Canada, along the lines which you discussed with me a few weeks ago.

FOREIGN RELATIONS DEPARTMENT,
WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 231

Copy to:—E. C. Thompson, Grasselli Chemical Co., Cleveland.
C. H. Rupprecht, Krebs Pigment & Colour Cor., Newark.
Development Department, Wilmington.

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Letter No. 799

21st October, 1932.

Mr. W. R. Swint,
Foreign Relations Dept.,
Wilmington, Del.

Titanium Pigments.

We have your letter No. 473 of October 12th. We also note your decision on this subject, namely, that you would prefer to abide by the principles involved and request that I.C.I. refrain from licensing the new Company on any information received from us, or I.C.I.'s own information.

I.C.I. recognizes the principles involved but in view of the fact that the practical importance of the matter is so small they wished to be in a position to make the gesture of bringing their know-how to the new Company. I am certain that it would be taken by them as an unfriendly act if we were to prevent them from doing this merely on the ground of demanding full protection of our rights, which we understand to be of little practical value, under the letter of the agreement.

In my opinion we could fully protect our rights by writing I.C.I. along the following lines:—

Exhibit 231

1. In view of their decision that the only practical way for them to enter the field of Titanium White in the British Empire is to take a minority interest in British Titan Products Limited, we are prepared to make such adjustments to the I.C.I.—DuPont Patents and Processes Agreement as will leave them free to do this.

2. In order that our own position may be protected I.C.I. should turn over such information as they acquired from DuPont prior to the organization of Krebs Company and such information as they themselves developed up to that time, with the understanding that it will not be used in DuPont exclusive license territory.

In view of the fact that this information is not of outstanding value it seems as if the new Company could undertake not to show it to their American shareholder.

A letter along the above lines would protect the situation from the standpoint which is foremost in your mind, namely, observing the principles involved. At the same time it would permit I.C.I. to make the gesture they desire. The only difficulty would be that the material might be actually available to National Lead through carelessness or any other reason on the part of the new Company. However, even if this were to occur, as everyone seems to admit that the practical effect of this is of no importance, we would seem to have little to lose by falling in with I.C.I.'s wishes.

Another point which occurs to us is that we have never given any assurance to I.C.I. that the information we acquired from them prior to the organization of the Krebs Company together with our own information, the British Empire rights to which they are entitled, may not be used by Blumenfeld in the British Empire. This point has not been mentioned by I.C.I.

Exhibit 22

Mr. Major is out of town and consequently we are unable to give you the benefit of his views at the present writing.

We shall be interested in having your early advice as to whether the above presentation may not change your point of view in the matter. I.C.I.'s Development Department is very anxious to know our decision so that they may make final arrangements relative to participating in the British Titan Products Company.

With reference to the last paragraph of your letter in which you state that Mr. Mitchell believed that this Company had been organized solely for exploring the possibilities, and that there is no commitment to build a plant, we understand that this is correct. At the same time we understand that in the organization of the Company care is being exercised to define the interests and contributions of the various participants. We also received the distinct impression from Major Barley that, while official decision to build a plant had not actually been made, the various participants were pretty well agreed to go ahead as soon as possible.

J. K. JENNEY.

JKJ/PR.

Exhibit 232

October 21, 1932.

Dr. G. W. Thompson,
Building.

Dear Dr. Thompson:

Sample No. 9, Filter Cake from the Krebs Pigment & Color Corporation, has been analyzed by Mr. J. H. Kenny with the following results:

Moisture at 105° C.	66.16%

Dry Basis

Titanium Oxide	77.62
Sulphuric Anhydride	6.15
Combined Water	14.83
	98.60

This is the product referred to in the Rossi & Barton U. S. Patent 1,196,031, August 29, 1916.

The analysis is very close to one of the examples given in the patent specification.

Very truly yours,

L. E. Barton.

Exhibit 232

Letterhead of

TITANIUM PIGMENT CO., INC.

Sample of "No. 9 Filter Cake Before Additions"
Date October 19, 1932
To Mr. L. E. Barton
From The Laboratory
See Yours of October 14, 1932 (memorandum)
Sample Rec'd
Sample Marked

ANALYSIS

Moisture at 105° C.	66.16%
Dry Basis	
TiO_2	77.62%
Loss on Ignition (900° C)	20.98%
	98.60%
Sulphuric Anhydride	6.15%
	20.98
	6.15
	14.83 Com. Water

Titanium Oxide	77.62
Sulphuric Anhydride	6.15
Combined Water	14.83
	98.60

Analyst: J. H. Kenny

This is the product deferred to in R & B U. S. Patent 1 196 031, Aug 29, 1916

Exhibit 233

Letterhead of

KREBS PIGMENT & COLOR CORPORATION
256 Vanderpool Street
Newark, New Jersey

October 27, 1932.

CONFIDENTIAL.
Dr. G. W. Thompson, Vice President
National Lead Company
111 Broadway
New York, N. Y.

Dear Dr. Thompson:

We have now had opportunity to consider the claims made by National Lead Company of infringement of claims in their patents by Krebs Pigment & Color Corporation. We agree with the proposal in your letter of October 17, 1932, to answer these claims under certain headings.

We wish to offer for your consideration a slight modification in heading number four and an additional heading number five. These are within our understanding of the spirit of your proposal.

1. Simple admission of infringement.
2. Admission of infringement but agreeing in the future to desist.
3. Denial of infringement on account of prior use.
4. Denial of infringement by citation of coverage by prior art.
5. Denial of infringement for the reason that the claim or claims do not read on our process or product.

Exhibit 233

Below we shall discuss the individual patents which you claim we are infringing:

U. S. PATENT No. 1,196,031—ROSSI AND BARTON

It is alleged that we are infringing the single claim of this patent. This claim covers a basic titanium sulphate of certain specified composition.

The only product which could be considered to come within the scope of such a claim is our acid cake. We have experimental evidence that this acid cake is not a basic titanium sulphate as specified in the claim. In view of this fact we believe that we are not infringing under heading 5 referred to above. Attention is also called to the expired U. S. Patent No. 1,014,793 issued January 16, 1912, to Weintraub. We are following the teachings of Weintraub inasmuch as our acid cake is of a general composition similar to that of the product resulting from his process.

U. S. PATENT No. 1,276,644—GOLDSCHMIDT

It is alleged that we infringe claims 1, 3, 7, 8, 9 and 10 of this patent. These claims cover the use of precipitated sulphur in the clarification of titanium solutions.

In our process precipitated sulphur is never used for this purpose. We use precipitated copper sulphide under reducing conditions which preclude the formation of precipitated sulphur. We therefore believe that we are not infringing under heading 5.

U. S. PATENT No. 1,288,863—FLADMARK

It is alleged that we infringe all seven claims of this patent. These claims cover the hydrolysis of concentrated titanium solutions, also concentrated basic titanium sulphate solutions.

Exhibit 233

We do not believe that we are infringing this patent as we follow the teaching of Blondel who in 1899 disclosed in Bulletin Soc. Chim. 21: 262-4, a manner of hydrolyzing concentrated titanium sulphate solutions, including basic solutions, by heating. We, therefore, believe that we are not infringing under Heading 4.

U.S. PATENT No. 1,333,819—JEBSEN

It is alleged that we infringe claims 3, 4, 5, 7, 8, 9, 11, 15, 18, 19, 20, 21 and 22. These claims are directed to the attack and leaching processes particularly with use of less acid than corresponds to the formation of normal titanium sulphate: $Ti(80_4)2$.

Our process follows the teachings of Weintraub in his U. S. Patent No. 1,014,793 and of Farup in his U. S. Patent No. 1,087,575. Both of these patents have expired. We feel confident, therefore, that our process does not infringe claims 3, 4, 5, 7, 15, 18, 19, 20, 21 and 22. This non-infringement belongs to the heading No. 4.

The other three claims 8, 9 and 11 seemingly have no bearing on our process as we do not make use of the specific conditions described in these claims. Claim 8 is directed to the use of a slime in the attack step which we do not practice; claims 9 and 11 cover a lixiviation process in which the fresh decomposition product is treated with a solution formed by lixiviation of the decomposition product with water, which is not practised by us.

U. S. PATENT No. 1,333,849—OLSEN & FORLAND

It is alleged that we infringe claims 1, 2, 4 and 5. These claims cover the reduction of the titanium solution prior to hydrolysis so that some titanous salt is present.

Exhibit 233

Our process follows the teaching of Weintraub in U. S. Patent No. 1,014,793, which discloses the reduction of ferric iron by means of zinc added to the slightly acid titanium solution so that the iron remains in solution when, on boiling the titanium compounds are precipitated as meta-titanic acid. We, therefore, believe that we do not infringe either the process or the product claims of this patent.

U. S. PATENT No. 1,338,473—WRIGLEY & SPENCE

It is alleged that we infringe two groups of claims 1, 8, 11, 12, 13, 14, and 15, covering the direct injection of steam during the attack step; and 4 and 6 covering removal of copperas from the itanium solution.

There must be some misunderstanding concerning the bearing of the first group of claims upon our process. We do not inject steam during the attack but merely pre-heat the acid with steam prior to the introduction of the ilmenite. We, therefore, believe that we are not infringing under heading 5.

Concerning the other two claims, numbers 4 and 6, we understand from the specifications of the patent (page 2, lines 15 et seq.) that it is contemplated to reduce the titanium solution completely, or practically completely, prior to the copperas removal. We do not practice such complete reduction and therefore believe that we do not infringe under heading 5. Attention may be called also to the fact that we operate according to the teachings of the prior art in producing concentrated solutions of titanium and iron sulphates. Such solutions, as is well known, will crystallize during ordinary manufacturing practice so that a major

portion of the copperas, separates, unless special precautions are taken to keep them at a high temperature.

U. S. PATENT No. 1,348,129—GOLDSCHMIDT

It is alleged that we infringe two claims; 16 and 19 which cover a "crypto crystalline" titanium oxide.

We have examined our titanium oxide pigment by various microscopic methods using magnifications equal to and higher than that specified by Goldschmidt and have found no evidence that the particles are composed of crystals which are relatively small as compared with the particles and also no evidence that these particles exhibit a crystalline interior structure and a smooth exterior surface. We, therefore, believe that we are not infringing under heading 5.

U. S. PATENT No. 1,360,737—FARUP

It is alleged that we infringe claim 12, covering a titanium pigment containing combined phosphorous.

We do not add any compound of phosphorous to our pigment at any step in its manufacture. We do not believe that we are infringing this claim under heading No. 5.

All titanium ores with which we are familiar, available for the manufacture of titanium oxide pigments, contain phosphorous compounds as impurities and if any combined phosporous has been found in our pigment by analysis it originated from impurities in the raw material.

U. S. PATENT No. 1,412,027—WASHBURN

It is alleged that we infringe claim 15, covering a crystalline TiO_2 containing combined phosphorous.

Exhibit 233

The same discussion applies as under Farup U. S. Patent No. 1,360,737 and we believe that we are not infringing for the same reasons covererd there.

If you will communicate with me after reviewing our comments, I will be glad to arrange for discussion, and have Dr. Booge present.

Very truly yours,

(Signed) C. H. RUPPRECHT
PRESIDENT

Exhibit 234

Copies to:—
Development Department,
E. C. Thompson, V.P., Grasselli Chem. Co., Cleveland, Ohio,
C. H. Rupprecht, Pres., Krebs Pigment & Color Corp., Newark, N. J.

Letter No. 492 November 2, 1932.

J. K. JENNEY,
LONDON OFFICE.

TITANIUM PIGMENTS

After discussing your letter of October 21st, No. 799, with Dr. Sparre, we have decided that it would be decidedly preferable, from our point of view, if this whole matter could be held in abeyance for two or three months. By that time, we hope to have our arrangement completed with the National Lead, and then the whole question will automatically be solved.

I, personally, do not see how it is feasible to get any undertaking from the proposed new British company, as outlined in your paragraph "2".

I note you have not yet discussed this matter with Mr. Major, and I presume also, not with other representatives since receiving my letter of October 12th. If you have in the meantime, or do in the future, have discussions on this point and you feel that our views are objectionable to them, please write us again.

Exhibit 234

The point which you raise in the second paragraph on page 2 of your letter has no basis in fact. As we have no reciprocal exchange of information with Blumenfeld, but have simply bought the U.S. rights to his patents and information, he cannot use our prior technique in the British Empire to I.C.I.'s detriment.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 235

November 2, 1932

Dr. G. W. Thompson, Chief Chemist
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

Referring to letter from Krebs Pigment & Color Corp., October 27, 1932.

U.S. PATENT No. 1,196,031, ROSSI & BARTON

1: The claim marked as infringed in this patent clearly covers the acid cake produced by Krebs.

2: Weintraub U.S. Patent No. 1,014,793 mentions a suspension of titanium sulfates remaining after dissolving the ferrous sulfate and some titanium sulfate in a limited quantity of water. Weintraub does not separate the sulfate nor disclose its composition, but from our knowledge of titanium sulfates so produced, sulfate may have been a soluble titanyl sulfate. This possibility is confirmed by Weintraub's statement that his suspension is thrown into a large amount of boiling water whereby meta-titanic acid is formed indicating that the suspension whatever it was was soluble in water.

U.S. PATENT No. 1,338,473, WRIGLEY & SPENCE

The third paragraph of Krebs' letter under this heading is very weak, particularly in the reference to lines 15, etc., page 2, of the Wrigley & Spence patent. Beginning at line 15 Spence describes his method of treating titanium solutions for the preparation of titanous solutions, but the broad disclosure of all solutions is stated on page 2, lines 7 to 15 where it is made clear that the process is not limited to the

preparation of titanous solutions or to the reduction of all the titanium before crystallizing out ferrous sulfate. Lines 7-15, page 2, are as follows:

> "The clear neutral, basic, or acid liquors obtained by the process are in themselves for certain purposes in the arts, *either before or after the removal of a proportion of the iron by crystallization as hydrated ferrous sulfate*, useful solutions of titanium sulfate containing iron sulfate and are also economical starting liquors for the preparation of other compounds of titanium."

Krebs further states as follows:

> "We do not practice such complete reduction", etc.

Our observations at Baltimore and the description of the process given to us show that it is their regular practice to completely reduce the iron to the ferrous state before crystallizing out ferrous sulfate. I believe this is borne out also by the Blumenfeld group of patents taken as a whole.

The other patents referred to in Krebs' letter of October 27, 1932 are either Washburn or Titan Co. patents, and I am therefore leaving them for Mr. Washburn to reply to, although I am taking the opportunity to discuss them with him.

Yours very truly,

Titanium Pigment Co., Inc.

(Signed) L. E. Barton

L. E. Barton

LEB:JEJ

CC—Mr. W. F. Washburn

Mr. A. S. Moses

Exhibit 235

November 2, 1932

MEMORANDUM relative to Blumenfeld U. S. Patent No. 1,795,467

In studying the Weinberg U. S. Patent No. 1,014,793 in relation to the matter of infringement by the Krebs Pigment & Color Corporation of our U. S. Patent No. 1,196,031 (see Krebs' letter October 27, 1932) it appears that Weinberg makes a rather clear disclosure of subject matter and certain claims of the Blumenfeld patent where he states on page 2 as follows:

> "For each 100 g. of ilmenite originally taken, 500 cc. of water are sufficient. This mixture is stirred for a long time in order to insure complete solution of the iron salts and disintegration of the titanium sesquisulfate particles. The reduction of the ferric sulfate is performed during this part of the operation, in the manner already described. *After the reduction, the mixture, consisting of a solution of titanium sulfate and ferrous sulfate and of a suspension of titanium sulfates, is thrown into a large quantity of boiling water, whereby meta-titanic acid is formed,* which is filtered and treated in the same manner as described above."

LEB:JEJ

L. E. BARTON

CC—Dr. G. W. Thompson
Mr. W. F. Washburn

Exhibit 236

November 3, 1932

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

I have read Mr. Rupprecht's letter to you of October 27 and have prepared the following memoranda, which may be of assistance to you in formulating your reply to it:

U. S. Patent #1,196,031—Rossi and Barton

The claim in this case is as follows:

> "As a new product, the herein described titanium compound characterized as consisting essentially of basic titanium sulphate and as rendering by analysis a preponderance of titanic oxide, less combined water than titanic oxide, and less sulphuric anhydride than combined water."

The dried product; ie., prior to calcination, manufactured by the Krebs Pigment and Color Corporation, is certainly covered by this claim. While it is true that the dried product is, as far as I know, not offered for sale, nevertheless, it constitutes an infringement.

Attention is directed to the analyses given on page 2, lines 92-100, inclusive, of U. S. Patent #1,196,031.

If they are following the teachings of Weintraub, U. S. Patent #1,014,739, as claimed by Mr. Rupprecht, their

product would not be white and would contain 1-2% iron oxide. (See Weintraub—page 2, lines 22 and 23.)

U. S. Patent #1,276,644—Goldschmidt

As we are waiting for certain tests now being carried out in the Laboratory, it will be well to defer comment on this patent until the investigation is completed. However, I will call attention to the fact that Goldschmidt, in his specification, shows that solutions containing colloidal slimes may be clarified by the addition of a colloid carrying an opposite electrical charge.

I am not at all sure but that there is an infringement of this patent on the grounds of equivalency, even though there may be no elemental sulphur present in their solutions.

U.S. Patent #1,288,863—Fladmark

Mr. Rupprecht denies infringement of this patent by citing the article by Blondel published in Bulletin Soc. Chim. 21,262-4. This, to the writer, seems very farfetched. There is nothing in Blondel's article which would indicate or even suggest that a practical commercial process had been developed. There is no evidence that Blondel's products were suitable for the preparation of a white pigment, nor that he had any such object in mind. Furthermore, he does not use a solution such as described by Fladmark, nor does he state that titanium hydrates can be precipitated from a concentrated basic solution by heating.

Repeatedly, the courts have held that a scientific article in which a casual mention is made of a chemical compound cannot be held to anticipate a practical commercial process.

Exhibit 236

U.S. PATENT #1,333,819—JEBSEN

This patent covers the formation of a basic solution of titanium and iron sulphate from Ilmenite by the action of sulphuric acid.

This is, in the writer's opinion, a very important and valid patent.

In none of the references cited is there any suggestion that when Ilmenite is treated with less sulphuric acid than is theoretically required to combine with the base-forming elements present, more than the theoretical amount of iron and titanium would go into solution. Neither of the references cited are pertinent, as they do not disclose Jebsen's discovery.

Weintraub, for instance, on page 1, lines 64-68, inclusive states, "The quantity of acid may vary through reasonable limits but the theoretical amount required; namely, double the weight of the Ilmenite under treatment, is sufficient."

Fasup, U.S. Patent #1,078,575, which discloses a process for the manufacture of a *yellow* pigment specifies "treating finely pulverized titaniferous iron ore with *relatively great amounts* of sulphuric acid." He does not contemplate the formation of a solution of titanium and iron sulphates.

Certainly there is no suggestion in either of these references that less sulphuric acid than would be required to combine with the base-forming materials present, can be successfully employed. If they follow the teachings of Weintraub, as is alleged, they should use at the "attack" step of their process sufficient acid to form normal salts with the base-forming materials present.

Exhibit 236

U.S. PATENT #1,333,849—OLSEN AND FORLAND

This patent covers a solution of titanium and iron salts adapted for the precipitation of titanium hydrates substantially free from iron, in which solution the iron is in the trivalent condition and the titanium in both the tetravalent condition and in a condition of lower valence, the salts of the last-named titanium being present in relatively small proportion to the salts of the trivalent titanium but in sufficient quantity to prevent the formation of trivalent iron salts or subsequent precipitation of the titanium hydrates.

When the solution covered by this claim and clearly disclosed in the specification, is submitted to hydrolysis, a white precipitate of titanium hydrate essentially free from iron, is formed.

Mr. Rupprecht enters a denial of infringement of this patent by citing the Weintraub U.S. Patent #1,014,793. This reference is not pertinent, as it certainly is not an anticipation of the Olsen and Forland Patent. There is no suggestion in the Weintraub Patent that some of the titanium should be reduced to a lower valence. In fact, it is apparent that Weintraub did not contemplate such a process. For instance, page 2, lines 2-10, inclusive: "It is therefore necessary to reduce the ferric salt in the solution. This is performed by adding zinc or sulphurous acid or a concentrated sodium thiosulphate solution until no more reaction with potassium sulfocyanate takes place, which indicates that the ferric salt has been reduced to the ferrous state."

There is certainly no suggestion here that Weintraub had reduced titanium present in his solution. On the contrary, inasmuch as sulphurous acid and zinc are considered by him to be equivalent, it is clear that he did not contemplate having reduced titanium present.

Exhibit 236

Furthermore, page 2, (line 20), "and can easily be filtered off, washed with hot water, dried and calcined to a very light titanium dioxide with not more than 1-2% iron oxide." The iron content specified proves to one skilled in the art that Weintraub did not have sufficient reduced titanium present in his solution to prevent precipitation of iron during hydrolysis.

In addition, it should be noted that if Weintraub's solution was the same as that made by Jebsen, he would not have been obliged to precipitate his titanium hydrates by the addition of a large amount of water.

It should be noted that U.S. Patent #1,333,819—Jebsen; U.S. Patent #1,333,849—Olsen and Forland; and U.S. Patent #1,288,863—Fladmark, are links in a process for the preparation of titanium hydrates from basic solution. The process used by Krebs Pigment and Color Corporation at Baltimore clearly infringes each of these patents.

It should be noted that the Weintraub Patent was cited by the examiner against these patents. We were able to clearly distinguish our process over the reference and prior art.

U.S. Patent #1,338,473—Wrigley and Spence

There is no misunderstanding, on our part, concerning the infringement of this patent.

Mr. Rupprecht's statement: "Concerning the other two claims, Nos. 4 and 6, we understand from the specification of the patent (page 2, lines 15 et seq.) that it is contemplated to reduce the titanium solution completely, or practically completely, prior to the copperas removal."

Exhibit 236

I wish to call attention to lines 7-15, inclusive, where it clearly states that, "liquors obtained by the process are in themselves for certain purposes in the arts, either before or after the removal of a proportion of the iron by crystallization as hydrated ferrous sulphate, useful solutions of titanium sulphate containing iron sulphate and are also economical starting liquors for the preparation of other compounds of titanium." And then in Claim 4: "In the process of obtaining solutions of titanium sulphate by treating ilmenite with a dissolving agent, the step which consists in removing iron from the solutions by crystallization as a hydrated ferrous sulphate."

Mr. Rupprecht states that they are operating according to the teachings of the prior art in producing concentrated solutions of titanium and iron sulphate. I should be glad to have him indicate what references he has in mind. They certainly are not known to me. He well knows that the removal of the copperas from the solution is a very important step in the manufacture of titanium pigments from basic solutions. If, as he suggests, it is quite natural for copperas to crystalize out from such solutions, why do they use the expensive cooling and crystallizing equipment? Certainly such an important step in the process cannot be so lightly dismissed.

U.S. PATENT #1,348,129—GOLDSCHMIDT

Commercial samples of Rayox have been examined by one of the foremost authorities in microscopy and x-ray analyses in the United States and he has found crypto-crystalline titanium dioxide in the pigment.

Exhibit 236

U.S. PATENT #1,360,737—FARUS AND U.S. PATENT #1,412,027—WASHBURN

It is admitted that the processes disclosed in the above patents are not being infringed. However, we do submit that the product claims of which Claim 12 may be quoted: "As a new and improved article of manufacture, a white or light-colored pigment containing an oxygen compound of titanium and combined phosphorous," are being infringed.

As it is well known that compounds of phosphorous have a marked effect upon the properties of titanium pigments, it seems to me that there is no question but that this claim is infringed. The fact that the phosphorous compounds may be present in the ore as an impurity, has no bearing on the question.

I have tried to cover the essential points as briefly as possible. If you wish to have me further amplify them, I shall be very glad to do so.

Yours very truly,

W. F. WASHBURN
Asst. General Manager

WFW:MCY

Exhibit 237

November 5, 1932

Dr. G. W. Thompson, Chief Chemist
Research Laboratories
Brooklyn, N. Y.

Dear Dr. Thompson:

I have discussed with Mr. Washburn his letter to you of November 3, 1932, relative to Krebs' statement of non-infringement, their letter of October 27, 1932.

Washburn's remarks relative to the reference to Blondel are well taken and I believe constitute the real answer. However, it is interesting to note that none of the titanium sulfates described by Blondel in the reference come within the range of composition referred to in the table, page 2 of our patent 1,196,031, nor are they covered by the claim, all of them containing higher percentages of sulphuric anhydride. You will recall that our analysis of the basic sulfate precipitated by Krebs in their operations at Baltimore did come within the limits of the table referred to.

While I believe my letters of November 2 and Mr. Washburn's letter of November 3 are important for their own information, and may become useful under conditions which may develop, it is my present opinion that these comments should not be sent to Krebs Pigment & Color Corporation, but rather that we should stand squarely on our previous statement of their infringement.

Yours very truly,

Titanium Pigment Co., Inc.
L. E. Barton

LEB:JEJ

Exhibit 238

Letterhead of

PHILIP C. PECK

December 22nd, 1932.

Dr. G. W. Thompson,
c/o National Lead Company,
111 Broadway, New York, N. Y.

Dear Mr. Thompson: —

Re: Krebs Pigment & Color Corporation

Your December 20th letter enclosing copies of Mr. Rupprecht's December 16th letter to you and of your reply of December 20th has been received, and I have carefully considered the questions raised in these letters.

You are correct in your statement to Mr. Rupprecht that the two decisions cited are not pertinent to the issues raised in this correspondence. However it is not a question of your infringing Krebs patents, but of their validity. Infringement is suggested as a basis of the issue of invalidity on the test of "what would infringe, if later, anticipates if earlier."

Furthermore there is no such thing as partial invalidity as intimated in the fourth paragraph of your letter to me. Patents can not be "invalid as far as we are concerned" without also being invalid in favor of the public generally.

An analysis of the Kendall and Macbeth decisions shows that they only decide that an inventor who makes up his mind not to patent his invention at all, forfeits all right to a patent, and may not thereafter obtain a monopoly under the patent laws. The issues of prior knowledge and prior use do not arise for determination.

Who then benefits by this forfeiture — the public or some subsequent inventor or discoverer? Such question can not arise unless the earlier inventor has successfully kept the invention so absolutely concealed that it is virtually a lost or forgotten art; otherwise the second man would not be the inventor of something "not known or used by others in this country before his invention or discovery thereof" (U.S.R.S. 4886). The dominant right of the public created by the patent laws prevails because this second man is not the true inventor and the invention is not new.

Anticipation is also made out under U.S.R.S. 4920 when it is established as to the patentee

> "That he was not the original and first inventor or discoverer of any material and substantial part of the thing patented"

These two sections go together on the issue of prior knowledge and use.

In Coffin v Ogden (18 Wall. 120, 124), the U. S. Supreme Court expressly held:

> "The prior knowledge and use of an anticipatory device by a single person is sufficient to negative invention by a later comer"

In the case of Reed v Cutter, Fed. Case. No. 11645, Mr. Justice Story said:

> "If the invention is perfected and put into actual use by the first and original inventor, it is of no consequence whether the invention is extensively known or used, or whether the knowledge or use thereof is limited to a few persons, or even to the first inventor."

Exhibit 238

As I understand the facts, your procedure has long been in commercial use, and in no wise comprises a case of a forgotten process that after being first practiced was afterwards thrown aside and its use altogether abandoned. On the contrary, your Company has made no special effort to hide this particular procedure. While it was your practice to exclude the general public from your plants, yet such policy was not dictated by a wish to keep this particular procedure strictly secret. You did not pledge your employees to secrecy in respect thereto, a considerable number of employees knew of such procedure and felt no obligation of secrecy, and in the course of years many must have left your services and probably were expressly enjoined when they left. Manifestly such process was a long-continued commercial use, a practical employment in ordinary plant practice. In fact such procedure is the only use possible industrially, and shows both prior knowledge and prior use under the statute.

The Macbeth case (so much relied on by Krebs) decides only that an inventor forfeits his rights under the patent laws when he uses his invention for many years as a trade secret. In the District Court the decision (231 F.R. 188) was rendered by Judge Clarke who afterwards sat in the U. S. Supreme Court. He dismissed the suit not only because Macbeth abandoned the invention (sole ground of affirmance in the Circuit Court of Appeals), but also because the patent was void for prior knowledge and use.

After reviewing the various decisions on this second ground including Kendall v Winsor (21 How. 323), Judge Clarke said:—

> "No case has been cited to the court where a patent has been held valid *after a long commercial but se-*

cret use of it, upon the ground that such a use was not a public one within the meaning of the patent statutes."

See also Perkins v Nashua, 2 Fed. R. 453 and cases cited.

In Standard v Kiefer (18 Fed (2nd) 326; affirmed page 331), the Court reviewed many of the prior decisions, and the well-settled rule is epitomized in the syllabus as follows:

"Prior use for years for commercial purposes of machines which anticipated that of a later patent, which use was known to numerous employees not pledged to secrecy and to occasional visitors, was a public use, which renders the patent invalid, though there was more or less of an attempt by the concerns using the machines to keep such use as well as other of their processes, from the knowledge of the general public."

This summarizes exactly the issues as applied to your plant practice as I understand the situation in respect to the procedure in question.

Furthermore your industrial plant procedure was sufficiently public to constitute an anticipation under the provisions of R.S. 4886 and 4920 which I have mentioned. The final clause in the opinion of the du Pont Patent division quoted in your December 20th letter to Mr. Rupprecht is not supported by the decisions which I have set forth in my opinion, and the preceding parts of this du Pont opinion quoted in Mr. Rupprecht's letter are only relevant as against an inventor who first decides not to patent his invention at

all, and then later on patents it seeking to offset abandonment. As you have well stated, such du Pont opinion is "not germane to the question of your prior use which I believe is sufficient to require denial of a valid patent.

The only exception to the statutory rule that no patent may validly issue for anything "known or used in this country" before its invention by the patentee is where the earlier inventor has absolutely concealed and suppressed all knowledge of the invention by other so that the second inventor and patentee may be likened to a rediscover of an old or forgotten art (Gaylor v Wilder 10 How. 477). It must be fully established that the first inventor's efforts to keep his invention strictly secret have been altogether successful. Even a pledge to secrecy by your employees would not necessarily make your procedure a secret use.

In your correspondence with Krebs I would not refer to your commercial plant procedure as being a "*secret* use", but rather a continuous industrial practice that was not designedly hidden from your employees or visitors at your plants.

I realize that you are "not concerned in or desirous of rendering any of the Krebs patents invalid". Nevertheless your defense must be invalidity under R.S. 4886 and 4920 should they be so ill-advised as to sue, since infringement is suggested under the necessary assumptions in rendering this opinion.

Very truly yours,

Philip C. Peck

PCP/VP

Exhibit 239

Book D—page 387

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, December 22, 1932, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Broderick, Carter, Caselton, Cornish, Croft, Rockwell, Sidford, Taylor and Thompson.

Resolved, that this Board approves the acquisition of the 7100 shares of outstanding stock of Titanium Pigment Company, Inc., not already owned by this Company, in exchange for shares of the Class A Preferred Stock of this Company now in its treasury, upon the general terms offered to the holders of said shares by Mr. W. C. Beschorman, Vice-President, as reported by him at this meeting.

Exhibit 240

Book D—page 390

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, January 26, 1933, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Brodrick, Carter, Cornish, Rockwell, Sidford and Taylor.

Approving the acquisition of 7100 shar of the capital stock of Titanium Pigment Company, Inc., constituting the remainder of the outstanding stock of said Company not already owned by this Company in exchange for an equal number of shares of the Class A Preferred Stock of this Company; upon the terms specified in written offers to the former holders of said shares dated December 30, 1932.

Exhibit 241

January 20, 1933.

Dr. G. W. Thompson, Chief Chemist
National Lead Company.
Building—18th Floor.

Dear Dr. Thompson:

In connection with the Krebs negotiations you wanted some information about the I. G. patents pending. I have made a review of our I. G. patents and find the following:

U. S. Serial No. 417,000, December 27, 1929.

Subject: Basic titanium sulphate solutions for tanning.

Claim 7. Titanium sulphate preparations containing a sulphate of the group consisting of the alkali metals & ammonia in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powders, dissolving easily in water and being valuable tanning and weighting agents.

Claim 8. Titanium sulphate preparations containing an alkali metal sulphate in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powers, dissolving easily in water and being valuable tanning and weighting agents.

Claim 9. Titanium sulphate preparations containing sodium sulphate in which on each mol of titanium dioxide 0.3 to 0.5 mol of sulphuric acid are bound, being colorless crystalline powders, dissolving easily in water and being valuable tanning and weighting agents.

U. S. Serial No. 507,040, January 6, 1931.

Subject: Producing basic solutions by removing part of SO_4 radical as an insoluble sulphate.

Claim 2. In a process of preparing tanning and weighting agents from aqueous solutions of titanium sulphuric acid compounds the steps which comprise adding to an aqueous sulphuric acid solution of titanium dioxide, containing for about one mol of titanium dioxide one mol of sulphuric acid, such a quantity of a basic agent forming a water-insoluble compound with sulphuric acid, that the remaining solution contains 0.5-0.9 mol of sulphuric acid upon one mol of titanium dioxide.

Claim 3. In a process of preparing tanning and weighting agents from aqueous solutions of titanium sulphuric acid compounds the steps which comprise adding to an aqueous sulphuric acid solution of titanium dioxide, containing for about one mol of titanium dioxide one mol of sulphuric acid, such quantity of calcium carbonate that the remaining solution contains 0.5-0.9 mol of sulphuric acid upon one mol of titanium dioxide.

U. S. Serial No. 555,141.

We apparently have no exact copy of the application as filed by the I. G. in the United States, but we have a copy of the case as filed in Canada, the subject matter of which, as well as the United States case, is briefly as follows:

> Process of improving the wetting power of pigments by milling them with oils, fats, higher hydrocarbons or salts of fatty acids such as aluminum stearate.

Representative claims from the Canadian application are as follows:

Claim 1. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pig-

ment with about 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids.

Claim 2. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pigment while heating to about 30-100°C. with about 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids.

Claim 3. Process for improving the miscibility with binding agents of pigments, which comprises grinding the pigment with about 0.1 to 0.3% of a mineral oil.

Claim 15. Composition of matter consisting of a pigment, having incorporated therewith 0.1 to 0.3% of a substance of the group consisting of oils, fats, fatty acids derived therefrom and salts of these fatty acids, said composition of matter being a powdery pigment having an improved miscibility with binding agents.

We received a letter from the Titan Company dated June 18, 1932, in which they state that Titangesellschaft have received an office action in the United States application which they consider very pertinent and wish to know if we would agree to withdrawal of the application. We suggested to the Titan Company that the case be limited with the possibility of obtaining some minor protection, but in view of the references in the case, most of which we have in our files, it is highly improbable that any patent protection will be obtained.

We sent to the Krebs Pigment & Color Corporation a set of our United States patents issued, including I. G. patents 1,738,765 and 1,758,472. Four other I. G. patents

have come to my attention which I believe had not been received at the time the set was sent to them. They are as follows:

U. S. No. 1,849,153, March 15, 1932.

"Method of Preparing Highly Concentrated Titanium Sulphate Solutions."

Subject: Making basic concentrated titanium solutions by heating acid titanium solutions with titanic acid and subsequently concentrating in vacuum.

Claim 1. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in a saturated solution of meta-titanic acid in concentrated sulphuric acid at a temperature of not over 60°C.

Claim 2. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in an amount that for two molecules of sulphuric acid at least about one molecule of titanium dioxide is present, in a saturated solution of meta-titanic acid in concentrated sulphuric acid, at a temperature of not over 60°C.

Claim 3. In the process of preparing highly concentrated titanium sulphate solutions, the step which comprises dissolving ortho-titanic acid in an amount that for two molecules of sulphuric acid about one molecule to about two molecules of titanium oxide dioxide are present, in a saturated solution of meta-titanic acid in concentrated sulphuric acid, at a temperature of not over 60°C.

Exhibit 241

U. S. No. 1,850,154, March 22, 1932.

"Solid Titanic Sulphate."

Subject: The absorption of titanium solutions during the drying process of salts such as sodium sulphate or minerals such as silica or asbestine.

Claim 1. The process which comprises adding to the concentrated titanium sulphate solution 3-5%, calculated on the amount of the titanium sulphate used, of a solid, water binding agent and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 2. The process which comprises adding to a concentrated titanium sulphate solution 3-5%, calculated on the amount of the titanium sulphate used, of anhydrous sodium sulphate and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 3. The process which comprises adding to a titanium sulphate solution containing in a liter about 400 to about 500 grams of titanium dioxide 3-5%, calculated on the amount of the titanium sulphate used, of a solid, water binding agent and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Claim 4. The process which comprises adding to a titanium sulphate solution containing in a liter about 400 to about 500 grams of titanium dioxide 3-5%, calculated on the amount of the titanium sulphate used, of anhydrous sodium sulphate and subjecting the solution in a finely divided form to the action of a heated current of air of a temperature of about 250-350°C.

Exhibit 241

U. S. No. 1,850,286, March 22, 1932.

Copy enclosed.

U. S. No. 1,891,911, December 27, 1932.

"Process of Decomposing Titanium Ores."

Subject: Treating titanium ores with dilute sulphuric acid in presence of reducing agents such as titanous sulphate to dissolve iron but not titanium.

Claim 1. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore with dilute sulphuric acid in the presence of a reducing substance for the ferric ions.

Claim 2. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore with dilute sulphuric acid in the presence of a titanous compound as a reducing substance for the ferric ions.

Claim 3. The process of decomposing raw titanium ores and removing the iron therefrom which comprises directly treating the raw ore at an elevated temperature with dilute sulphuric acid in the presence of a reducing substance for the ferric ions.

Claim 9. The process of decomposing ilmenite and removing the iron therefrom which comprises directly treating the raw ore at a temperature of about 180°C. with dilute sulphuric acid in the presence of a titanous salt sufficient to reduce the ferric ions.

Yours very truly,

TITANIUM PIGMENT CO., INC.

LEB:J

L. E. Barton

Exhibit 242

February 2, 1933

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

Enclosed are two papers—one a copy of a Memorandum of Tentative Understanding arrived at between Krebs Pigment and Color Corporation and Titanium Pigment Company for the Cross-Licensing of Patents, and the other, a Supplementary Agreement proposed for the purpose of enabling us to proceed with the cross-licensing agreement with the Krebs corporation roughly described in the Memorandum first mentioned above.

It is quite important now that we should know what your attitude and the attitude of our German and English associates is toward our pursuing these negotiations to completion. We are quite sure that it will be of advantage to the Titanium Pigment Company. (We have canvassed this qugstion very thoroughly.)

In the Memorandum referred to, we have made our argument in favor of this cross-licensing agreement solely on the ground that the patent infringement difficulties are not easily solvable. There are other advantages which will be obvious to you.

In order that you may understand all that we are attempting and the reasons for it, I shall present to you a short discussion of the Memorandum of Tentative Understanding etc. first.

1. The Krebs corporation derives most of its patents from the Blumenfeld group. It owns these United States

patents but has no power to convey to any one else the right to use them outside of the United States. They would permit us under our tentative plan to operate under these patents to the extent we might desire. The other group of patents is those owned by the Titanium Pigment Company and those owned by the Titan Company. We are not assuming that we have any right to grant to the Krebs corporation licenses to operate under patents owned by any of our sub-licensees such as the Titangesellschaft and I.G. or as may be in the future issued to the British Titan Company or our English associates. You will see therefore that our proposition relates only to the United States and it is our intent to do nothing that would work adversely to the interests of any of our associates abroad.

You will shortly hear from Mr. M. D. Cole with regard to a phase of the proposition which will enable us to proceed more satisfactorily. Resolutions have been drawn up by our attorneys to be adopted concurrently by the Titan Company, Inc., and the Titanium Pigment Company providing that the Titanium Pigment Company shall assign and transfer to the Titan Company all patents issued outside of its territory and providing that the Titan Company shall assign to the Titanium Pigment Company all patents it owns in its territory. It seems to be an equitable arrangement and will enable the Titanium Pigment Company more freely to operate within its territory and presumably should similarly operate with reference to the Titan Company, Inc.

I have in mind to suggest at the next meeting of the Titanium Pigment Company directors the following general policy, to wit: that in the future the Titanium Pigment Company will agree to assign to the Titan Company all

patents it (the Titanium Pigment Company) might apply for in the Titan Company's territory, leaving entirely to the Titan Company the question as to whether these patents should be applied for and to the extent they shall be maintained. We will suggest also that the Titan Company follow a similar practise with regard to future patents that might be applied for by it (the Titan Company, Inc.) in the territory of the Titanium Pigment Company. This has been rendered practicable by the purchase by the National Lead Company of all the stock owned by Mr. Meredith and his associates so that the Titanium Pigment Company is today owned entirely by the National Lead Company. If this plan is adopted, it will remove the burden of continuous correspondence between the Titan Company and the Titanium Pigment Company with reference to their respective foreign patents. We can see no objections to this plan but of course with regard to this we want your advice and criticism.

2. The cross-licensing plan with Krebs corporation provides for non-exclusive licenses. This is for legal reasons.

3. Explains itself.

4. Provides for a cancellation notice with regard to patents for which application has not been made. We are of the opinion that a three years' notice would be satisfactory.

5 and 6. Explain themselves.

7. You are not concerned in this royalty arrangement but you will be interested in the fact that the Krebs corporation has accepted our suggestion and we have adopted as an expiration of the royalty December 31, 1936 because

our royalties will not cease to the Titan Company, Inc., until that date. It will be understood of course that in calculating royalties the production of the Krebs corporation will be included with the production of the Titanium Pigment Company. Inasmuch as the Titanium Pigment Company's production is considerably more than twice that of the Titan Company, Inc., and its associates, the cross-licensing with Krebs will not in all probability increase the royalties that the Titanium Pigment Company will have to pay the Titan Company, Inc.

8. This is a stumbling block but we have practically made up our minds that unless the Krebs corporation will agree not to sell for export out of the United States our cross-licensing system can not go into effect. We are discussing the question now. It is obvious to me that the Krebs corporation could not possibly do a profitable export business where our European Titanium pigment manufacturers have costs so much lower than we have in the United States. We shall, however, do nothing in our cross-licensing agreement with the Krebs corporation that would impair the interests of our foreign associates by permitting our licensee to sell for export.

9. Explains itself.

We now come to the proposed Supplementary Agreement amending the license agreement of 1920. The preamble is quite clear, requiring no explanation.

Section 1 is the main section. *a* is fairly clear. *b* explains itself but requires this elaboration— I am quite sure that we will get permission to transmit to you for the benefit of your licensees any information profitable to them that we get from the Krebs corporation as to its operations. To

put in our cross-licensing agreement that they must divulge everything would be contrary to the spirit of the proposition. We are entering into this, both of us, solely for the United States, and we will probably have an understanding with Krebs that they shall not send abroad to your competitors any information about our processes of manufacture without our consent and that we would not send to you for your associates' benefit any information about the Krebs plant without their consent. This seems to be eminently fair and while we have not attempted as yet to cover it by a formal clause in our understanding that is the thought I am sure both have in mind. *c* seems to me to be perfectly clear. *d*—We have ourselves only recently complied with the license agreement of 1920 in compelling certain of our employees to sign contracts with regard to inventions and improvements which they may make. I think our agreement is satisfactory from our standpoint with our employees. The Krebs corporation, which is a department of DuPont, has all of its employees tied up by contract. This proviso, *d*, however, would only be of interest to the Titan Company and its associates if we had any right to ask the Krebs corporation to give us foreign rights to inventions they may make. *e* and *f* explain themselves.

Section 2 is clear. I have already explained that the Krebs production would have to be included with that of the Titanium Pigment Company in calculating royalties that might be due to the Titan Company.

Won't you kindly give these two papers your careful consideration and show them or such parts of them as you think should be shown to your German and English associates asking them to criticise them freely so that we may do nothing which will possibly affect them adversely.

Exhibit 242

This letter will go on the same steamer, addressed to you both in Paris and in London, as the agreements with the British Titan Products Company Limited.

Yours very truly,

(Signed) G. W. THOMPSON

G. W. THOMPSON

P.S. Since dictating the above it has been decided that I should send to you three extra copies of the Supplementary Agreement to London. Assuming that your associates approve the amendment to the 1920 agreement, will you kindly ask them to signify their approval as indicated in the copies sent by signature of a qualified officer with the seal of the company.

G. W. T.

P.P.S. The "copies" last above referred to are executed originals—two to be returned to this office after approval by all concerned and the third to be retained for your Paris office files.

M. D. COLE

(Copy to Thames House, London)

Exhibit 242

MEMORANDUM OF TENTATIVE UNDERSTANDING

ARRIVED AT BETWEEN

KREBS PIGMENT AND COLOR CORPORATION

AND

TITANIUM PIGMENT COMPANY

FOR THE CROSS-LICENSING OF PATENTS

It having become evident that further controversy relative to infringement of patents would very likely end in a deadlock which could only be settled by arbitration, it has seemed desirable to these two companies that a cross-licensing agreement be entered into of all controllable covering the production, use and products of Titanium except Titanium alloys, particularly Titanium pigments, along the following lines.

1. Patents involved are those owned by the Krebs Corporation, those owned by the Titanium Pigment Company, and those owned by the Titan Company.

2. Cross-licensing shall be non-exclusive.

3. These non-exclusive licenses shall be for the life of the patents.

4. These non-exclusive licenses shall extend to all pending and future patents, processes and methods with this proviso, namely, after December 31, 1936 either party on _____ years notice may cancel the cross-licensing agreement with reference to all patents for which application has not been made. (Perhaps it would be better to omit this last clause.)

Exhibit 242

5. This cross-licensing agreement relates only to United States patents.

6. If either party should develop a patentable process, product or use of obviously superior value such party must notify the other party of this fact, and a special payment to the inventive party by the other party in an amount agreeable to both parties shall be made.

7. A ratio agreement is established based upon the total production of Titanium oxide, pure and in combination, for the year 1932 which is accepted as being as one for Krebs is to three for Titanium Pigment Company. If either party exceeds this ratio it will pay to the other party a royalty on the production in excess of its ratio. This royalty is to be 5% of the average published carload price in barrels prevailing for pure TiO_2. Royalty payments if any to accrue from January 1, 1933.

8. Products made wholly or in part under Titanium Pigment Company or Titan Company patents can not be sold for shipment to points outside of United States except through the Titanium Pigment Company as agents.

9. On the acceptance of this tentative understanding by both parties, the Titanium Pigment Company will take the necessary steps to bring about an amendment to the license agreement of 1920 between the Titanium Pigment Company and the Titan Company A/S which will permit said cross-licensing without imposing the burdens upon the Krebs corporation which said license agreement of 1920 would otherwise impose.

Exhibit 243

MEMORANDUM OF CONFERENCE WITH MR. RUPPRECHT.

February 7, 1933

Mr. Rupprecht had my "Memorandum of Tentative Understanding" but had not consulted very extensively with his people. There were many difficulties that he outlined to me which I did not attempt to settle at this time. Following are the points to be cleared up:

1. He wanted to know what we meant by controllable patents. I explained to him that they were the patents owned either by the Titan Company or the Titanium Pigment Company; that we could not control the I. G. patents or subsequent patents that might be taken out by the British Titan Company. I gave him a letter from Mr. Barton giving a fair description of the patents applied for by and issued to the I. G. in the United States.

The proposed cross-licensing would be with the Krebs company and the question arises as to whether the Grasselli company, which covers other things than pigments and which is nominally the owner or controller of the Krebs company, would be interested in any other patents.

4. He thought that the time of cancellation could be reduced from three years to a shorter period, with an agreement that research work should be fairly well exchangeable mutually which would prevent either party holding back patentable propositions.

6. He was agreeable to this but thought that perhaps it ought to be stated simply as the spirit of our cross-licensing plan.

7. Apparently he did not understand the plan as originally proposed. He thought that royalties would only be charged where there was an increase by either party over what the other party would increase in excess of the ratio. As an example, if the Titanium Pigment Company produced 10,000 tons and the Krebs company 4,000 tons, there would be an increase of 1,000 tons in one case over 9,000 and in the other case over 3,000, in which case there would be no royalty paid. According to the plan proposed to Mr. Rupprecht, any increases to avoid royalty would have to be in the ratio of one to three. I suggested to Mr. Rupprecht that the plan as proposed should be adhered to but some maximum amount might be set or some limitation as to payment of royalties or increase. He however is going to consider it.

The royalty to be five per cent of the average published carload price, he said should be carload minimum price, which would be in bags and not in barrels.

He made no objection to the royalty payments accruing from January 1, 1933.

8. Krebs' difficulty however related to Item 8. He said they have always been doing some export business. They have shipped titanated lithopone to England; have an office in Buenos Aires and one or more offices in Japan and China. He did not think they would want to accept the restriction proposed. He said their legal department had advised him that as long as this was a cross-licensing agreement between two United States companies any restriction of territory might be considered in violation of law. I asked him to think over this restriction and see what he could suggest as a substitute. I have thought of no real substitute for it myself although we may be able to develop one. It

might be that something added to this restriction, would make it satisfactory, say, the following: "Nothing in this restrictive clause as to sales for export shall prevent either licensee entering into negotiations with either the Titan-gesellschaft in Germany, the Titan Company operating abroad or the British Titan Company to facilitate sales for export in their respective territories, to wit:".

I did not think it desirable at this time to attempt to dispute any of Mr. Rupprecht's criticisms and objections. My idea was that it would be better to leave these disputed points so I could think about them and they can be a matter of discussion after I return from Florida.

Exhibit 244

Letterhead of

TITAN COMPANY, INC.

Paris, March 1st, 1933.

Dr. G. W. Thompson,
National Lead Company,
111 Broadway,
New York City, U. S. A.

Dear Mr. Thompson:

In my other letter of to-day I have dealt with the proposed arrangement with Krebs on broad lines.

By application of the fundamental principle mentioned there on the various contemplated stipulations of the agreements, and taking into consideration the conditions under which the chemical industries operate, one will probably arrive more or less at the same results.

It may thus be superfluous to go into details, but as you have been so good to write so fully, the following notes as to the various points may interest you. They may seem to be more of a critical nature than constructive, but please do not take this as no wish on my part to find a solution of your problem. It is rather difficult to make positive suggestions re details without knowing more of Krebs' attitude and point of view.

Ref. your letter of February 2nd.

ad 1) 1st paragraph.

Refraining from giving Krebs a license under U. S. A. patents belonging to T. G. m.b.H. or in future to B. T. P.

or Société Titane is probably not of much consequence to these companies, as they have given exclusive licenses to the T. P. Co. and can not make any use of the inventions themselves. The only rights left to them re these patents are legal rights to sue Krebs, which, in view of the relations intended to be established between Krebs and T. P. Co., they would presumably hesitate much to do so.

(Note from Art. V f., that it has been considered to be first of all in the interest of the licensee (in this case T. P. Co.) to bring suit, as the licensee has the benefit of an exclusive license. The licensor's interest to sue would be in the case only of the infringer exporting to his market).

Ad 1) 2nd paragraph.

A reciprocal assignment and transfer of all patents under which T. P. Co. and Titan Co. Inc. now have granted each other licenses, has probably its advantages as a mean to eliminate correspondence. I see no objection to this, but beg to return to the question after closer investigation.

Ad 2) 3) 4).

No comments.

Ad 5).

See other letter of to-day.

Ad 6).

If this should apply to Krebs in its relations to our European companies, it will have to be reciprocal. It seems to me, that lumping it as we have done in our agreements,

avoids future discussions. Each company has presumably sufficient incentive to do development work in any case,— a royalty or payment will not make much difference for any company with sufficient market. In our case, with each company having its market from which the other is excluded, such payment becomes of a different character.

Ad 7).

No comments.

Ad 8).

This restriction of Krebs' export seems of a very doubtful value. Confer, the preamble.

Ad. The supplementary agreement between T. P. Co. and Titan Co. A/S.

Ad a).

See other letter of to-day.

Helping the licensee (Krebs) with licenses and information means to strengthen his ability or even enable him to make inventions and acquire patent rights outside said allotted countries. (Certain patent rights are already acquired by sending in an application in the licensee's own country).

Liberty to dispose of these opens competition and will consequently lead to withdrawal of co-operation between the licensor (T. P. Co.) and his friends in the "outside countries".

It must be remembered that the same process can be subject to further inventions and patents—and patents can be very interlocked.

Exhibit 244

Let us presume that T.P.Co. develops a patented process and gives an exclusive license to T.G.m.b.H. (through Titan Co. Inc.) and also a license to Krebs. Krebs patents an improvement on this process. T.G.m.b.H. will then have no right to this improvement.

Very often such patentable improvements can arise with very little effort. It may even have been reached by T.P.Co. or T.G.m.b.H. but found preferable not to patent it. The original process may have been the result of exchange of experience between chemists of T.P.Co. and T.G.m.b.H.

A situation has been created, which does the opposite of promoting confidence and co-operation.

Ad b).

—do.—

The License Agreements deal, as regards the technical co-operation, first of all with the patents, but it has been the intention of all parties that also an exchange of experience should take place and not only experience necessary for the application of the patented inventions (see Art. VII).

It has also been intended that any invention based on the experience available to the parties should be at the disposal of both (see Art. VIII).

I have had the opinion that these inventions should be exclusively at the disposal of the parties for use within their territories within the Licensed Field together with sublicensees of theirs, who go wholeheartedly with us.

It has been left to the discretion of the parties to what extent such experience and non patented inventions should be kept secret, trusting the parties to take care of this—and partly because no contractual obligations can cover such a point.

Exhibit 244

Considering that every patented invention (to which the exclusive rights are to be granted) is based on experience to a great extent, and such experience as has been acquired not only by the particular development work done for the invention in question, but also experience amassed by previous inventions, development work and factory experience, it is a logical consequence that in a co-operation as foreseen, any division of patents and unpatented technical knowledge is dangerous and may lead to an estranging between the parties.

The conditions of Art. XIV and XV are particularly dictated by the above considerations.

Ad c).—

I.G.'s views caused them to propose that even no-opposition should be made against patent applications.

I beg to refer to Mr. McCarty's letter of October 24th 1928, of which I.G., on Mr. McCarty's request has got a copy.

Ad d).—

This will be difficult for I. G. to understand.

It is general practice in Europe in the chemical industries to have such obligations upon the employees, and I see that also Krebs has such.

It has two effects:

1) The acquisition of those patents by the Company.

2) Preventing others from acquiring these inventions.

This last is also of importance, particularly in view of the temptation it represents for employees to make undue use of information acquired in the company's service.

(The obligation is limited to "as far as possible").

Exhibit 244

Adf).—

An elimination of the restrictions as to field will raise much discussion and presumably bring forward a demand from our associates of a similar liberty, if not a restriction of the Licensed Field to pigments alone, giving for inst. I.G. liberty as to other compounds. The question is a difficult one.

I refer to my letter of January 27th.

Not knowing the obligations of Krebs vis à vis Blumenfeld it is difficult to form an opinion in this matter. 2 years ago it was taken as granted by the interested parties in the Blumenfeld group that an arrangement regarding exchange of patents or experience could not take place between particular parties of the various groups, unless it was done by all. This was also accepted as a matter of course by Dr. Kühne and myself.

As, however, the relationship between the various parties of the Blumenfeld group is considerably more loose, and in some cases not exactly friendly, I thought from your remarks last summer, that Krebs by taking over the Commercial Solvents' interests, had dissolved their relationship.

If this is not the case, it remains open—in order to enable the Titanium Pigment Co. to make an arrangement with Krebs and at the same time maintaining the close co-operation with our European associates—to take up again the negotiations with the Blumenfeld group, which stopped 2 years ago. In view of the particular conditions within that group, this is not an easy matter, but could of course be tried.

With my best regards,

Yours very truly

Copy to Mr. Cornish.

G. Jebsen.

Exhibit 245

Letterhead of
TITAN COMPANY, INC.

Paris, March 1st 1933.

GJ/AK

Dr. G. W. Thompson
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Dr. Thompson,

I acknowledge receipt of your favour of February 2nd and beg you to excuse my delayed reply caused by my absence.

The proposed arrangement with Krebs and amendment of the agreement of 1920 represents such a radical change of the present basis of cooperation, that I beg to present you my views before I definitely bring the question before our associates in Europe.

The fundamental principle of the agreements with Titangesellschaft, British Titan Products Co. and Sté Industrielle du Titane, the three firms which are licensed by us in Europe, is a wholehearted cooperation in the technical development, manufacture and sale of Titanium compounds *throughout the whole world*. The same applies to the agreement between Titanium Pigment Company and Titan Company Inc., on which the above agreements were modelled in accordance with the stipulations in Art. XIV of 1920.

A technical cooperation in the Licensed Field between any of these parties with any other party (third party) involves a considerable element of disturbance of the above

aimed cooperation, unless the third party accept this same principle for cooperation.

Every patented invention is based on experience not only acquired by the particular development work done for the invention in question, but also experience amassed by previous inventions, development work and factory experience. Technical developments—when published in one country—have legal effect in other countries. Any arrangement by which important technical knowledge will go from for instance Titangesellschaft or British Titan Products Co. through Titanium Pigment Company to Krebs, inspiring their development work and possibly resulting in European patent rights belonging to Krebs, to which the European partners should have no rights, or any such arrangement by which the same knowledge may go to our competitors—the Blumenfeld group here,—will mean a disturbance of cooperation and either be met by our associates with considerable criticism when not repudiation, or lead to a rearrangement between all parties—loosening the relationship.

During my visit last summer you had understood that Du Pont were under no obligation of cooperation with the Blumenfeld group and were not interested in the development of a titanium business outside of North America. I told you that two years ago, during the negotiations with the Blumenfeld group here, and Picknor and Chase, it was said that an arrangement of reciprocation existed regarding patents. You had, however, understood that the transfer to Krebs of Commercial Solvents' interests did not involve such an obligation for Krebs.

If this is the case, I hope you will succeed in bringing Krebs fully into our circle, with Krebs accepting the fundamental principle above mentioned. This involves that Krebs

will not only have to refrain from sales outside U. S. A. or North America; but also accept at technical cooperation outside North America with our Companies (through the Titanium Pigment Company.)

You say: "I am quite sure that we will get permission to transmit to you for the benefit of your licensees any information profitable to them, that we get from the Krebs Corporation as to its operations".

You add: "To put in our cross-licensing agreement, that they must divulge everything, would be contrary to the spirit of the proposition."

If this last is caused by the competition which will go on between Titanium Pigment Co. and Krebs, it seems to me that the European companies may be satisfied by an exclusive license under the Krebs' possible patent rights outside North America.

In short, the main points to consider in order not to affect adversely the European companies' interests are:

1) Prevent commercial competition.

2) Prevent technical competition

   a) by giving the European companies exclusive licenses under all patent rights outside North America (~~taking care to obtain~~ patents as far as possible or found desirable by the European Companies on all inventions for which patents are applied by Krebs and Du Pont in the Licensed Field)

   b) by preventing technical information to go to our competitors in Europe.

As to the question of further contributions from Krebs with information, etc., this will I think be considered by

our associates as of secondary importance and they would probably be satisfield with what may satisfy the Titanium Pigment Co.

Considering the importance of the firms which have joined us in Europe, the I.G. Farbenindustrie, Imperial Smelting Corporation, Goodlass Wall and the Imperial Chemical Industries, with which last firm DuPont is closely befriended, a cooperative matter, these firms ought to have a considerable weight with even Duponts.

I have had in mind to visit New York in the latter part of April. Will this be convenient to you? In the meantime I shall try, when meeting our associates, to see what I can learn about their views without presenting your proposal.

With my best regards,

Yours very truly,

G. JEBSEN.

P.S.—In the agreements here for the European companies, we have succeeded to have not only the licensed companies, which are engaged in active work for the development of the industry, to accept the principle fully, but also the shareholders, I.G. Farbenindustrie, Imperial Smelting Corporation, Goodlass Wall—and as regards Imperial Chemical Industries with the following exceptions:

I.C.I. have limited their obligation to license British Titan Products Co.—to pigments, but, by the main agreement they are obliged to refrain from dealing in and manufacturing Titanium compounds, except $TiCl_4$. The effect

Exhibit 245

of this is presumed to be practically the same as I.C.I. refraining from any competition.

I.C.I. have certain commitments towards Dupont and Canadian Industries re exchange of patents and experience, which have been given as reasons for this form of the agreement.

It is not likely that they will undertake themselves any development work, when they are prevented from making use of it, and it is to be expected that they will consent to give B.T.P. the benefit of all what Dupont may give them.

I do not know what the terms are for the reciprocal arrangement between Dupont and I.C.I., but it seems to me that any particular compensations fixed between these companies should be waived, so that it will in reality be an exchange of patents between Krebs and you on the one side and B.T.P.

The simplest arrangement would be that I.C.I. consented to have the exchange going through Titanium Pigment Co. and Titan Co. Inc., but if this, for some reason, is not acceptable, B.T.P. can receive from Dupont through I.C.I., and Dupont-Krebs from B.T.P. through T.P. Co.

The matter is somewhat delicate to handle and I beg you to treat the above information as confidential.

The parallel to our arrangements in the case of Krebs would be—an agreement with Krebs, similar to ours with B.T.P. or Titangesellschaft, covering practically all Titanium compounds, and an undertaking from Dupont only to operate through Krebs in the Licensed Field.

When the shareholders of the Titan companies have undertaken these obligations—it is an acceptance of our view, that this is a consequence of a close connection between the Titan companies and their shareholders—connection of commercial and particularly of technical nature.

Exhibit 245

Imperial Chemical Industries were reluctant in accepting these conditions. You may remember that I asked I.G.'s standpoint to an arrangement with I.C.I., by which I.C.I.'s obligations were limited only to Titanium pigments, but they considered it dangerous to let I.C.I. in, on such basis.

During my conversation with I.G., somebody asked if we would be willing to let I. G. also be free to act independently re titanium compounds other than pigments, but Dr. Kuhne immediately rejected it as unfortunate if such a division of interests should be made.—I mention this also in view of your proposals to amendment of Art. XIV in the 1920 agreement.

P.P.S. I am writing you another letter dealing more in detail with the various points in your letter.

Copy to Mr. Cornish.

Exhibit 246

MEMORANDUM OF IMPRESSIONS

ARRIVED AT ON READING

DR. JEBSEN'S LETTERS TO ME OF MARCH 1, 1933.

First letter—The whole-hearted cooperation throughout the whole world referred to requires some interpretation. Obviously our agreements with the Titan Company and others are for profit. We can not cooperate outside of the United States with respect to United States business and the profits coming from it. We can cooperate on technical matters which would be of advantage to us in the United States. Therefore the whole question relates as to whether an agreement with Krebs will impair or strengthen the help we would be able to give our associates abroad. In general, it is my opinion that it will strengthen us in helping them. If, however, our license agreement with Krebs can be improved that we will be better able to strengthen them, that ought to be provided for.

Inasmuch as the DuPonts and their associates according to our best information are not particularly interested in foreign business or even in foreign patents, it would appear to us that we have nothing to fear from them that would result in an impairment of our foreign situation. It is impossible to provide direct cooperation between Krebs and our foreign associates. Nevertheless by our working with Krebs, results will be obtained, if properly handled as we would intend to do, to be able to materially assist our foreign associates. To meet this point, I would suggest simply for consideration that an article be put in our cross-licensing agreement with Krebs providing that if any invention is made by Krebs, Titanium will be promptly

advised and Krebs would give Titanium a six months' option for the acquirement by our foreign associates of the foreign patent rights to this invention on terms to be agreed upon.

I personally see only in the cooperation with Krebs a strengthening of our patent position here and development of improvements in the art which would be primarily advantageous to us here but would be made more or less obtainable by our associates abroad.

Dr. Jebsen is thinking of the old arrangement with the Commercial Solvents Company and the Commercial Pigments Company when he refers to the obligations Krebs may have had or its predecessors may have had with Blumenfeld. It is very doubtful if we could directly bring Krebs into fully accepting the fundamental principle Jebsen refers to. It appears to me that Dr. Jebsen can not appreciate that a friendly and cordial relation with Krebs would take the place of specific legal obligations. My own opinion is that we will get more out of Krebs if we do not attempt to tie them down by too rigid obligations.

Jebsen makes a suggestion similar to mine above where he says, "It seems to me that the European companies may be satisfied by an exclusive license under the Krebs possible patent rights outside of North America". Of course Krebs derives many of its patents from Blumenfeld. Under these, they have no power over the foreign rights.

I agree that we must prevent foreign commercial competition coming from Krebs. This may be more of a mare's nest than a reality because I can not conceive how any product for many many years to come in the Titanium line can compete in cost with foreign products.

The expression, "prevent technical competition", does not seem to me quite correct. A certain amount of com-

petition is good and my belief is that Krebs and Titanium can compete with each other to see who can make the greater improvements. This ought to be the same way, say, between the Titangesellschaft and the Titanium Pigment Company. I am sure we can not prevent all technical information going from Krebs to our European competitors but we may be able to control Krebs' new patents.

Second letter—The introduction is very friendly. It disclaims any intention of being critical rather than constructive. The difficult of the problem makes it appear otherwise than critical. Our cross-licensing only of patents which Titanium Pigment Company or Titan Company owns and Krebs owns is for the purpose of simplicity. Krebs may want to acquire some Titangesellschaft or I. G. United States patents—these of course to be considered as a separate negotiation in which we would act as a friendly mediator. I can not understand why the restriction of Krebs' export business can be considered of very doubtful value.

It is perfectly true that improvements on processes may control the processes themselves. Our associates would get the benefit of any improvements the Titanium Pigment Company makes on the Krebs patents. Krebs would also get the United States benefit of these improvements. Now if Krebs makes improvements upon Titan Company or Titanium Pigment Company patents, we might as suggested above, provide for an option as to the foreign rights.

License agreements, it is true, call for an exchange of experience and advice. Very little of such an exchange has taken place during the last two years.

(To be continued)

Exhibit 247

Letterhead of

TITAN COMPANY, INC.

Paris, March 3rd 1933

GJ/AK

Edward J. Cornish Esq.
President
National Lead Co.
111 Broadway
New York City, U.S.A.

Dear Mr. Cornish,

My best thanks for your kind letter of February 17th.

I enclose copies of two letters to Dr. Thompson, dealing with his negotiations with Du Pont and amendments of the 1920 agreement.

Dr. Thompson's proposal involves a very radical change of the present basis of co-operation.

The letter Marked I) deals chiefly with the question in principle and may interest you. The other letter is presumably too detailed for your attention.

Trusting that you have fully recovered from your influenza and that Mrs. Cornish and you are well, I am, with kindest regards,

Yours sincerely,

G. Jebsen.

Exhibit 248

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, March 21st 1933.

Dr. C. W. Thompson
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Dr. Thompson,

RE DU PONT—KREBS.

I refer to my letter of March 1st, and particularly to the Post-Scriptum dealing with I.C.I. and Du Pont.

I told Major Barley of I.C.I. last week, that the conversations between you and Dupont were advancing and I expected, during my next visit to New York, presumably in the latter part of April, that these negotiations would be considered. I therefore asked him if there were any objections from I.C.I. to an arrangement by which Du Pont-Krebs' future patent-rights in Titanium within the Licensed Field for the British Empire, go to the British Titan Products Co.—directly or through them as intermediary.

Major Barley did welcome such an arrangement, saying that this was just what they would like, as it would bring Dupont in line with us. Dupont was their chief consideration in the difficulties they had felt in our negotiations with them.

I perceived from the conversation, that there are no definite obligations on the part of either I.C.I. or Dupont,

Exhibit 248

to exchange patents in these matters, except a very strong mutual consideration of each other's interest. This was, though, not clearly expressed by Major Barley.

I told Major Barley that I in some way had got the impression last year, that, when merging Commercial Pigments with Krebs, no obligation had been undertaken towards Blumenfeld as to exchange of future patents, experience, etc. Major Barley thought this was so, and that it had only been a matter of acquiring Blumenfeld's patents existing at that time. He did not state this definitely;—he is, though, I think, fairly well informed of the nature of DuPont's arrangements.

Major Barley thought that Dupont would probably not go against Blumenfeld commercially over here, and he also thought Dupont would probably not go against I.C.I.'s interest in the British Empire. (This last was of course only an expression of opinion, with no obligation).

The above is interesting, as it indicates that there should be no obstacle of importance for an arrangement with Dupont on similar lines as we have with our associates here, as far as the British Empire is concerned. When Dupont will not go against Blumenfeld commercially in his territory, which comprises the countries outside U.S.A., but Dupont can dispose themselves of their patent-rights in his territory, it is to be hoped that there also will be no serious objection to include the rest of the world (outside B.E. and U.S.A.)

I have not mentioned the lines of the arrangement with Dupont, which you sent me, to any of our partners, as I feel it would be unfortunate to suggest such radical changes at present, particularly to our English partners,—now immediately after the agreements with these are signed. I

consulted our English lawyer, Mr. Howard in the matter, who shared my opinion.

With my best regards,

Yours very truly,

G. Jebsen.

P.S.—I presume you know that my plans regarding my trip to U.S.A. will have to be changed, in view of Mr. Beschorman's visit here early May.

I look forward with much interest to hear further from you in the above matters.

Copy to Mr. Cornish.

Exhibit 249

Blind copies to Mr. T. S. Grasselli
Mr. E. W. Furst
Mr. Wm. Richter
Mr. T. Hanley

CONFIDENTIAL

April 8, 1933.

W. C. Beschorman, Vice President,
National Lead Company,
111 Broadway,
New York City, N. Y.

Dear Mr. Beschorman:

Enclosed I am sending you three copies of the proposed cross-licensing agreement between The Titanium Pigment Company Inc. and Krebs Pigment & Color Corporation, as decided upon at our conference on April 6th.

This is now in the form in which it is being presented to our Board and other executives for approval. I believe you will find this to be entirely in order and in accordance with our understanding.

I would like to confirm here, in connection with Article V, the information given you on April 6th relative to our recent acquisition of the so-called European Auer patents from Travancore Minerals Company Ltd., among which are some French and Italian patents which had already been submitted to Dr. Blumenfeld in France and Mr. Donegani in Italy with a proposition that they purchase the patents for these respective countries outright.

As explained to you, we feel we should be permitted to complete these negotiations which were inherited with our acquisition of the patents and we understand that this is

Exhibit 249

agreeable to you. We will, of course, endeavor to bring these negotiations to a speedy conclusion.

As to the remaining European patents, and more particularly those of Germany and Austria, I have just been informed that Aussig has passed them up as being or no interest to them, so it only remains for us to clear up the French and Italian propositions.

I am also enclosing suggested drafts of letters to be exchanged between yourselves, E. I. duPont de Nemours & Co., Commercial Solvents Corporation and The Grasselli Chemical Company, which I believe cover the purposes intended.

I appreciate the fine spirit and co-operation of your organization in these negotiations and trust that we can now bring the matter to an early close.

Yours very truly,

CHR:MW

President.

Exhibit 250

April 8, 1933.

To: Board of Directors,
Krebs Pigment & Color Corp.

From: C. H. Rupprecht, President

Proposed Cross-Licensing Agreement Between
The Titanium Pigment Company Inc.
and
Krebs Pigment & Color Corporation

You have been kept informed of our progress in the negotiations with National Lead Company in behalf of their 100% owned subsidiary, The Titanium Pigment Company, Inc., and Krebs, to arrive at a basis of cross-licensing on patents covering titanium pigments and compounds in pigment form, including products, processes and uses. Inasmuch as you are familiar with the situation on patents which confronted us and which presented the reason for opening these negotiations, and the benefits we expected to derive from concluding such an agreement, I shall not attempt to restate these facts, beyond the statement that the patent situation was unquestionably so involved that both companies were faced with the possibility and even probability of continued controversy with resultant litigation which would undoubtedly be very costly.

I am now pleased to report that the negotiations have been concluded and I am submitting herewith a proposed cross-licensing agreement which is acceptable to The Titanium Pigment Company Inc., with my recommendation that it receive your favorable consideration. The agreement covers a complete cross-licensing on all patents now or here-

after owned by either party during the life of the agreement, and also includes exchange of technical and research information and rights under secret processes in our plants which are not patentable or covered by patents. The Titanium Pigment Company Inc. maintains an extensive research organization and we must realize that they have been very aggressive in developing the art of titanium pigments, particularly in the field of extended products, in which we hope to engage in the near future and which presents the greatest opportunity for expansion of our titanium business. Through this agreement we obtain a greater freedom of action on patents and developments, and it is certainly expected that by our combined efforts, we will be able to create further advances in the titanium pigment art with greater rapidity, and avoid duplication of effort.. In other words, the money spent on research by the respective organizations will be directed along organized lines and should enable us to cover wider fields and expand studies at no greater cost and possible savings.

In connection with the clause on foreign rights, The Titanium Pigment Company has a substantial interest in Titangesellschaft m.b.H, Leverkusen, Germany, the titanium unit of I. G., and also in the new British Titan Products Company Ltd., an English company in which I. C. I. have a minority interest. We expect to be in position to obtain on a reasonable basis, any developments on titanium pigments which these organizations patent in the United States, and we in turn will offer them rights under our patents in Continental Europe or Great Britain on a non-exclusive basis and on terms mutually agreeable.

It will further be necessary for duPont and Commercial Solvents to submit letters to National Lead Company

stating that their activities in titanium pigments in the United States will be entirely vested in Krebs, in accordance with the duPont-Commercial Solvents agreement, and National Lead Company in turn will similarly write to duPont and Commercial Solvents stating that they lodge their entire titanium pigment activities in their subsidiary, The Titanium Pigment Company Inc., for the United States.

This recommendation is, therefore, respectfully submitted for the approval of this Board and that of The Grasselli Chemical Company and approval and authorization by the Executive and Finance Committees of E. I. duPont de Nemours & Co.

C. H. RUPPRECHT

Exhibit 251

CC: Mr. T. S. Grasselli, Cleveland
Mr. E. W. Furst, Cleveland
Mr. Wm. Richter, Wilmington

CONFIDENTIAL

Newark, N. J.,
April 8, 1933.

Mr. O. M. Hook,
The Grasselli Chemical Co.,
Cleveland, Ohio

Enclosed herewith I am sending you four copies of a proposed cross-licensing agreement between The Titanium Pigment Company Inc. and Krebs, which is being submitted to the Krebs Directors today, for action at their next Board meeting on the 17th.

This will provide a copy for yourself and three copies to be sent to Messrs. Carpenter, Echols and Harrington of the Grasselli Board. I am making the suggestion that these copies be forwarded to them in advance of your Board meeting, which takes place on the 18th. The matter will then have to go to the duPont Executive Committee for approval and to the Finance Committee for final authorization. I am hoping that all of these moves can be made promptly so that it will reach the duPont Finance Committee for their meeting on May 1st.

On Monday I will send you enough copies of the proposed agreement for the duPont Executive and Finance Committees so these can be forwarded to them promptly after the Grasselli Board takes action on the 18th.

C. H. RUPPRECHT

CHR:MW

Exhibit 252

Blind copies to Mr. T. S. Grasselli
Mr. E. W. First
Mr. Wm. Richter

CONFIDENTIAL April 8, 1933.

Mr. W. D. Ticknor,
Commercial Solvents Corp.,
230 Park Ave.,
New York City, N. Y.

My dear Mr. Ticknor:

Today I am sending to the Board the proposed cross-licensing agreement between Krebs and The Titanium Pigment Company and am also sending you herewith suggested form of letters to be exchanged between the several stockholders involved in Krebs and The Titanium Pigment Company, to provide for the necessary protection that all of the titanium activities under the cross-licensing plan will be vested in Krebs and The Titanium Pigment Company Inc.

I believe you will find the enclosed letters to be in order.

Yours very truly,

C. H. REPPRECHT
PRESIDENT.

CHR:MW

Exhibit 253

CC: Mr. Wm. Richter, Wilmington
Mr. E. W. Furst, Cleveland

Newark, N. J.,
April 8, 1933.

CONFIDENTIAL

Mr. T. S. Grasselli,
The Grasselli Chemical Co.,
Cleveland, Ohio

THE TITANIUM PIGMENT CO. AGREEMENT

You are receiving herewith the final draft of the proposed cross-licensing agreement, together with my letter of transmittal to the Board.

I am also sending you copies of proposed letters to be exchanged between the stockholders in Krebs and The Titanium Pigment Company Inc., which I believe you will find in order. Am also sending these to Mr. Ticknor. They have been prepared by the Legal Department in Wilmington, in accordance with our last conference with the National Lead people.

In my letter of transmittal I have not mentioned several points which may come up in your mind, namely, the approval of different departments within the Parent Company. The Legal Department took care of getting approval from all departments and subsidiaries who they thought might be interested. This is always left in their hands and was taken care of. Furthermore, the Development Department and Foreign Relations Department have approved the proposed agreement and it has also been passed on by Dr. Benger for the Chemical Department and Mr. Biesterfeld on patents.

Exhibit 253

In other words, I feel that the matter has been cleared through everyone who should be consulted. I cannot think of anyone being overlooked. Mr. Hanley of the Legal Department has been very co-operative in providing for all of these details and in the preparation of the agreement as now submitted.

You will further note in my letter to National Lead today I mention the Auer patents, and in explanation will say that during our last discussion with them I stated that we had recently acquired these patents and that we felt we should be permitted to conclude negotiations with Blumenfeld and Donegani for France and Italy respectively on the Auer patents for those countries, which had really been offered to these people and on which no final answer had been given. We have had no negotiations with either one but Travancore had already offered them these patents and they expressed a little interest in one or two of them, but nothing was ever done about it. However, I felt I would want to keep the door open to the extent of promptly having the duPont London office contact Blumenfeld in Paris and Donegani in Italy and give them a list of the French and Italian patents, with some sort of a proposition, and ask that these people either take them or say that they are not interested. In this way I felt we would be in a position of having given them each another opportunity. All National Lead asked was that we do not prolong it but bring it to a prompt close. This we will endeavor to do.

C. H. RUPPRECHT

CHR:MW

Exhibit 254

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Copy to Wm. Richter
C. H. Biesterfeld
W. R. Swint
C. R. Mudge

April 10, 1933

MR. C. H. RUPPRECHT
KREBS PIGMENT & COLOR CORP.
NEWARK

KREBS—TITANIUM PIGMENT AGREEMENT

I have read over the proposed agreement attached to your letter of April 8 which appears satisfactory but I want to make the following comments:

I am assuming that Article 5 is satisfactory to the Foreign Relations Department.

I think it is very unfortunate that Canada is left out of this agreement. I presume that this is because the Krebs Company did not acquire the Blumenfeld Canadian rights but, as you know, I have always considered that it was a mistake that your company did not acquire these rights. I would have liked very much to see the Krebs Company purchase the rights and would like to have the assurance from the Titanium Pigment Company that they will include Canada in the territory covered by the Agreement whenever Krebs acquire the Blumenfeld Canadian rights. In this event I think that the provisions of the agreement in so far as Canada is concerned should be permitted to be assigned to C.I.L. whereas this cannot be done in accord-

ance with Article 8. I realize that my comments in this connection are beside the point inasmuch as Krebs have no Canadian rights but I think it is a pity.

I am also assuming, as I have stated previously, that you know for a fact that the Titanium Pigment Company own the various patents under which you desire to obtain licenses and that there is no question but that the National Lead Company's entire titanium pigment developments will be conducted by the Titanium Pigment Company and that all patents in this connection will be owned by the Titanium Pigment Company now and hereafter.

Fin Sparre
Director

FS:N

Exhibit 255

CC—Mr. Wm. Richter, Wilmington
Mr. C. R. Biesterfeld, "
Mr. W. R. Swint, "
Mr. C. R. Mudge, "

Newark, N. J., April 12, 1933

DR. FIN SPARRE, DIRECTOR
DEVELOPMENT DEPARTMENT
DUPONT CO.—WILMINGTON

KREBS—TITANIUM PIGMENT AGREEMENT

I am pleased to note from your letter of April 10th that the proposed agreement appears to be satisfactory.

Relative to Article 5, this has been discussed with Mr. Swint and I understand has his approval.

You are right in your assumption that Canada was left out of the agreement by reason of our having no Canadian rights. We did not agree to pay Dr. Blumenfeld's asking price for his Canadian patents and he turned down our offer. We explained the situation to C.I.L. asking if they were interested in acquiring these patents but they simply suggested that we do so and hold against the future. I think if Blumenfeld had modified his $20,000 figure, we would probably have acquired these patents.

I have talked with National Lead regarding the Canadian situation and asked definitely whether they would be agreeable to including Canada should we obtain the Blumenfeld Canadian patents. Their disposition was to agree without any question, however, they simply asked that we leave it on the basis of being assured that it would have very fair consideration from then when the occasion arises.

Exhibit 255

If conditions remain as at present, I do not think that there would be any doubt about their being willing to extend our arrangement to Canada. The future may, however, develop a situation which would require some further negotiation due wholly because of the fact that the new English company in which I.C.I. is a minority stockholder is looked upon as the ultimate supplier to the Canadian market; in other words, National Lead have in mind withdrawing from the Canadian market entirely and serving it through their British associate, if and when the latter gets into production.

National Lead believe that the present titanium market, including extended pigments, in Canada does not total 500 tons annually; however, I see no reason why it should not grow in similar proportion to the United States. They feel, however, that a continuation of the reciprocal tariff arrangement in Canada protecting Empire products will eliminate their United States production.

As to Article 8, which does not permit any assignment, I do not see that anything can be done about this at the moment, I simply feel that when the time comes to discuss Canada more definitely with National Lead that we will find them very reasonable.

I have been informed that all patents on titanium pigments are owned by the Titanium Pigment Company and not the National Lead Company. Furthermore, it is planned to exchange letters between the stockholders of the two pigment subsidiaries entering this agreement whereby all signify their intention of conducting all of their titanium pigment business through their subsidiary. The Wilmington Legal Department has prepared the form of letters to be used.

C. H. RUPPRECHT

CHR:KW

Exhibit 256

Book D—page 409

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, April 20, 1933, at 10 o'clock A.M.

Present: Messrs. Beale, Beschorman, Carter, Caselton, Croft, Marsh, Merideth, Rockwell, Sidford, Taylor and Thompson.

Approving a proposed agreement between The Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation providing for reciprocal grants of non-exclusive licenses under United States Letters Patent owned by said companies in the field of titanium pigments.

Exhibit 257

Newark, New Jersey,
April 27, 1933.

PERSONAL

WM. RICHTER, GENERAL MANAGER,
FABRICS & FINISHES DEPARTMENT,
WILMINGTON.

Thanks for your telegram informing me of Committee approval on the Titanium cross-licensing deal.

I dropped in to see Mr. Ticknor yesterday, and found him in unusually good humor. He was highly complimentary on my success in signing up this agreement with National, and wondered how I persuaded them to come through to this extent. I do not quite understand that slant, for the reason that they are really giving no more than they hope to get. He said because of being detailed at home by illness he was prevented from writing to congratulate me on the deal.

It simply shows that a lot of our biggest worries never grow up.

C. H. RUPPRECHT.

CHR:s

Exhibit 258

Letterhead of-

COMMERCIAL SOLVENTS CORPORATION

April 28th, 1933.

National Lead Company,
111 Broadway,
New York, N. Y.

Gentlmen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc., we assure you that it is the intention of this company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 30% of whose outstanding stock is owned by this company.

Very truly yours,

COMMERCIAL SOLVENTS CORPORATION

By W. D. TICKNOR

W. D. TICKNOR,

WDT/B/R

President.

Exhibit 259

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

May 2nd, 1933.

Mr. C. H. Rupprecht, President,
Krebs Pigment & Color Corporation,
256 Vanderpool Street,
Newark, N. J.

Dear Mr. Rupprecht:—

In accordance with the suggestion contained in your letter of April 8th, I am sending you, herewith, a letter, addressed to the National Lead Company, which I understand will be forwarded to them by you.

I shall expect to receive through you, in due course, a letter from the National Lead Company, addressed to us, similar in form to the draft which accompanied your letter of April 8th.

Very truly yours,

W. D. TICKNOR

WDT/B/R

1106

Exhibit 259

April 28, 1933

National Lead Company,
111 Broadway,
New York City.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and Titanium Pigments Company, we assure you that it is the intention of this Company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 30% of whose outstanding capital stock is owned by this Company.

Very truly yours,

COMMERCIAL SOLVENTS CORPORATION

By (s) W. D. TICKNOR
President

Exhibit 260

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 4, 1933.

National Lead Company,
111 Broadway,
New York City.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc., we assure you that it is the intention of this Company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 70% of whose outstanding capital stock is owned by this Company through its 100%-owned subsidiary, Grasselli Chemical Company.

Very truly yours,

E. I. DUPONT DE NEMOURS & COMPANY

By N. F. HARRINGTON
Vice-President

Exhibit 261

Letterhead of

THE GRASSELLI CHEMICAL CO.

May 11, 1933.

National Lead Company,
111 Broadway,
New York, N. Y.

Gentlemen:

In reference to the contemplated agreement between Krebs Pigment & Color Corporation and The Titanium Pigment Company, Inc. we assure you that it is the intention of this company to conduct its Titanium Pigments business in the United States exclusively through Krebs Pigment & Color Corporation, 70% of whose outstanding capital stock is owned by this company.

Yours very truly,

THE GRASSELLI CHEMICAL COMPANY,

T. S. GRASSELLI.
(T. S. Grasselli.) President.

TSG/C

Exhibit 262

Letterhead of

TITAN COMPANY, INC.

Paris, June 9th 1933.

GJ/AK

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I suppose you are anxious to receive a reply from I.G. Farbenindustrie regarding the agreement Titanium Pigment Company / Krebs Pigment & Color Corp. as soon as possible.

On my suggestion to meet Dr. Kühne in Leverkusen this week, I received the reply that both he and Dr. Brüggemann were absent and will return in the beginning of next week.

I have written to Dr. Kühne pointing out the desirability of having this agreement closed soonest possible, also as Mr. Blumenfeld is leaving for U.S.A. on June 23rd and will presumably during his stay in New York discuss his position with Dupont—and also in view of the details regarding our arrangement with Dr. Mayer.

I do not anticipate any difficulties from the I.G. people, but, as Dr. Kühne has brought Frankfurt in the matter, he may find it difficult to arrange a date at which all persons concerned can meet.

Exhibit 262

I shall do my best to get the matter settled as soon as possible.

By the way, it may interest you that Mr. Lovati from Montecatini has asked for a meeting to discuss further price arrangements.

Sales continue to develop well and the 250 tons TiO_2 sent to U.S.A. may prove to be 250 tons more than we like to have disposed of.

Hoping that Mrs. Beschorman and you had a nice voyage and that the heat in New York is not disturbing you too much, I am, with kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 263

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, June 14th 1933.

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I acknowledge receipt of your cable as follows:

" HOPE YOU CAN LET ME HAVE REPORT ON
" REACTION TITANGESELLSCHAFT TO KREBS
" CONTRACT WITH DAY OR TWO"

and telegraphed you to-day as per enclosed copy.

Dr. Kühne returned to-day to Leverkusen, but I have had difficulties in getting hold of him over the telephone, as he and Geheimrat Duisberg have been showing the place to important visitors.

Dr. Kühne told me just over the telephone that Dr. Brüggemann has not returned yet from his holiday. He suggested a meeting in Frankfurt where he would arrange that Dr. Brüggemann also will be present.

As I have understood from a telephone conversation with Frankfurt that they also welcome the agreement with Dupont, I anticipate only comments of a formal nature.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 264

R. C. A. COMMUNICATIONS, INC.

RADIOGRAM

GC17XAX RFK578
PARIS 133/130 22 1350 1/50

LC BESCHORMAN LEADCO NEWYORK

AGREEMENT KREBS ACCEPTABLE TO IGFARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP IG S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGIUM VERY FAVOURABLE CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANINCS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEWYORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 265

Letterhead of

NATIONAL LEAD COMPANY

June 23 1933

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

Agreeable to your telephone request I am handing you a verbatum copy of the cable from Dr. Jebsen outlining the objections of the I. G. to the agreement with your Company as now outlined.

Yours very truly

L. C. BESCHORMAN
Executive Vice President.

Agreement Krebs acceptable to Igfarbenindustrie provided clearly expressed by Krebs in some form that they will respect Titangesellschafts territory not manufacture there make no deliveries direct or by customers give no sublicenses and no technical aid for manufacture within or for that territory Stop IG considers three years agreement short in view of parting with experience and suggests five years but makes it no condition Stop IG's reservations should also apply Titan Incs territory.

Exhibit 266

Letterhead of

TITAN COMPANY INC.

CJAK Paris, June 23rd, 1933.

William C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman:

Monday 19th I met the I. G. people in Frankfurt. From I. G. were present:

Mr. Weber Andreae, one of the first commercial heads of I. G.

Dr. Kühne, Leverkusen.

Dr. Brüggemann, Leverkusen.

Dr. Buhl, I. G. lawyer, Frankfurt, former "Ministerialrat".

Mr. Borgwardt, I. G. (manager of titanium sales).

We had first a meeting with

Dr. Mayer, head of Verein für Chemische & Metallurgische Produktion *Aussig*, Czechoslovakia.

Mr. Schaeffler, from Aussig.

The agreement between Aussig and Titangesellschaft was discussed and the main points agreed upon,—details to be worked out by Mr. Schaeffler and Mr. Borgwardt.

Afterwards the same gentlemen from I. G. discussed with me the draft agreement Titanium Pigment Co./Krebs.

Exhibit 266

The I. G. put forward exactly the same points, which I have laid down in my letter of March 1st to Dr. Thompson, and made the same comments upon the drafts as I did to you here in Paris.

I advocated the matter with the same arguments which you used, explaining the position between Dupont and National Lead Co., the advantages of the agreement and the intentions as to the territories not licensed by the contemplated agreement—further the acceptance of the draft by British Titan Products Co. (I. C. I.).

Mr. Weber-Andreae seemed to have a fairly good knowledge of the way of cooperation between Dupont and I. C. I. He considered it, though, necessary to have a clear statement from Dupont about the important points,—not necessarily embodied in the agreement, but for instance by exchange of letters between National Lead Company and Dupont.

I hope you can arrange this without any inconvenience, particularly as it is an expression of the main points of your explanation to Dr. Kühne.

Mr. Weber Andreae wanted also some minor points definitely included, for instance the compensation for important patents, but I got this changed to a statement from I. G. to us, not necessarily to be taken up with Krebs.

I enclose copy of a letter from the I. G. to me (with English translation), stating I. G.'s standpoint and views.

Dr. Mayer of Aussig went Monday evening to Paris to see if an arrangement with Blumenfeld was possible. I have passed the whole Wednesday and Thursday morning with them.

Blumenfeld was very sore about our arrangements for British Empire. He has not expressed this previously and it is probably the result of a recent visit to England.

He asked a compensation for British Empire or a quota there, going back to our conversations in 1931: He could have made arrangements with Laporte, but had declined in view of a possible understanding with us.

I told him the British situation had to be discussed with the British Titan Products Co., in which we had only a minority. I wished only to discuss Titan Co. Inc.'s territory outside T. C. m.b.H. and British Empire, and referred to 1931 negotiations by which he should have:

40% of France
20% in Belgium and Holland.

He asked first: 80% in France
55% in Belgium
45% " Holland

which I characterised as impossible.

Dr. Mayer had a talk with him alone and suggested then:

more than 50% for France
33% " Belgium
33% " Holland.

I told him that I would not discuss such basis before I have had the opportunity of conferring with New York (I had mentioned before we started, that I intended to visit New York in July.)

They urged me to go earlier to New York. Blumenfeld would remain there to July 15th.

Mr. Blumenfeld then mentioned what Dr. Mayer had told me confidentially—about his plan of a factory in Bel-

gium. Calculated production cost Mk. 400.—per ton of TiO_2 with supply of sulphuric acid Mk. 20.—per ton.

It was not, in that connection, mentioned that Blumenfeld should cancel this plan, but it is to be understood from the previous conversation (and earlier conversations) by which Meyer had explained the principles of his agreement with T.G.m.b.H. (T.g.m.b.H. to supply until its capacity is fully employed, capacity to include extensions within present Buildings).

Our sales in the last years compare favorably with Blumenfeld's (see enclosed table). There exists, though a great danger of French government's protection of a domestic industry to the exclusion of foreign goods (tariff, import contingent or otherwise.)

Mr. Blumenfeld asked if he should visit National Lead Co., but Dr. Mayer advised him not to do so, as you would not be prepared to discuss the situation before my arrival.

I have informed Mr. Blumenfeld that, unless he hears to the contrary, I would leave Saturday July 1st.

I thought a discussion of these matters with Blumenfeld in New York would be advantageous, partly in view of the situation I presume he will find vis a vis Dupont, and partly because of the evident advantages otherwise.

With kindest regards,

Yours very truly,

G. JEBSEN,

P.S.—I enclose confirmation of my cable to you of 22nd inst.

P.P.S.—The discussions with the I.G. passed in the most friendly and cordial spirit.

Exhibit 266

It has been very difficult to translate I.G.'s letter making it exact and conveying at the same time the spirit.

I.G.'s intention has been to meet the National Lead Co's wishes as far as they considered possible, and to reduce to a minimum the points considered necessary to make the agreement compatible with T.G.'s interests, expressing other important points without making them conditions.

I sent the cable with I.G.'s approval of the wording, as you might find it advisable to close with Krebs before Blumenfeld's arrival, and the other points, I presume, can be taken care of afterwards.

Exhibit 266

Translated from German.

I.G. Farbenindustrie Akt.Ges.
Verkaufsgemeinschaft Chemikalien

Frankfurt (Main) 20. June 1933.

Dr. G. Jebsen
Société Indústrielle du Titane
Paris 8e
26 Rue de la Pépinière

Dear Dr. Jebsen,

We thank you for having sent us the draft for the proposed contract between Titanium Pigment Co. Inc. and the Krebs Pigment & Colour Corp., content of which we have read with interest.

We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October, 1927 between Titan Co A/S and Titangesellschaft, that is that Krebs

a) shall not themselves manufacture in the territory of Titangesellschaft,

b) shall not make deliveries in this territory,

c) shall also impose upon their customers a corresponding obligation not to deliver in this territory,

d) shall grant sublicences only to undertakings outside this territory and for use outside of this territory,

e) shall strictly observe the same limitation as under d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft.

We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T.G.'s own patent-rights and experiences which are transmitted to Krebs through Titanium Pigment Company..

If this point is made clear, there exists; though, still a difficulty in so far as the contemplated agreement shall have a duration of only three years, so that after the termination of the agreement, Krebs is free to fight Titangesellschaft in the latter's own field, with the experience of Titangesellschaft, acquired in the meantime.

As we, on the other hand, do not fail to recognize the great importance of the new contract for the extension of the international cooperation in the Titanium-field, and as we moreover hope that the cooperation between Krebs and the Titanium Pigment Co. will work so well that practically the termination of the contract after three years is hardly probable, we are ready to withdraw (zurückstellen) our doubts in this connection. We may, however, express the wish that our hesitation at least to some extent be taken into account, so that the duration of the new contract be fixed at—at least 5 years instead of three.

The wording of Art. 5 paragr. 2 of the new agreement does not so far quite correspond with (cover) the above mentioned basic principle, that Krebs shall not grant any licenses within the territory of Titangesellschaft and/or to be made use of for this territory, inasmuch as the term

Exhibit 266

"non exclusive license" has been used. Further, it would better correspond to the spirit of the agreement between Titangesellschaft and Titan Co A/S, if such licenses were granted Titangesellschaft free of cost, it should then be (es sei denn) that Krebs acknowledge, that also they have to pay to T.G. a corresponding compensation for the use of patent-rights originating from T.G., as it, according to information from Mr. Beschorman, seems to be intended, without we being able hitherto to find a confirmation of this in the agreement. The above mentioned basic principle that, according to the spirit of the contract between T.G. and Titan Co A/S, Titangesellschaft should be granted a licence free of cost under the Krebs patents, applies also to new inventions as such naturally practically always will result from the experiences resulting from the cooperation Krebs/Titanium Pigment Co/ Titangesellschaft.

We should be obliged if Titanium Pigment Co. could give us a certain reassurance also with regard to these points.

Asking you to transmit to Titanium Pigment Co. this our standpoint, we remain

Yours very truly,

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 266

SOCIETE INDUSTRIELLE DU TITANE

DIFFERE

22.VI.1933.

BESCHORMAN

LEADCO

NEW YORK

AGREEMENT KREGS ACCEPTABLE TO IG-FARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP IG'S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGUIM VERY FAVOURABLE CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANICS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEW YORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 267

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL June 28, 1933.

W. C. BESCHORMAN, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have considered the various points raised by I.G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclu-

sive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received from Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:

Exhibit 268

CC—Wm. Richter, Gen. Mgr.—Wil.

Newark, New Jersey,
June 29, 1933.

CONFIDENTIAL
E. C. THOMPSON, VICE PRES.
GRASSELLI—CLEVELAND.

KREBS-TITANIUM PIGMENT AGREEMENT

I talked with you the other day on the above, telling you of the cable which National Lead had received from I. G. reading as follows:

> "Agreement Krebs acceptable to Igfarbenindustrie provided clearly expressed by Krebs in some form that they will respect Titangesellschafts territory not manufacture there make no deliveries direct or by customers give no sublicenses and no technical aid for manufacture within or for that territory Stop IG considers three years agreement short in view of parting with experience and suggests five years but makes it no condition Stop IG's reservations should also apply Titan Incs territory."

I have had several conversations with Mr. Beschorman on the subject, and saw Mr. Hanley of the Legal Department in Wilmington on Tuesday, at which time we drafted a reply which I delivered to National Lead personally yesterday, as per copy herewith. Mr. Beschorman feels that this should take care of the situation, and assures me that he is disappointed that I. G. have not come right through with a flat approval. I told him that it was a selling job for them to make I. G. realize that they were putting their

Exhibit 268

interests in National Lead's hands, and that they would be well taken care of. Mr. Beschorman told me that when he saw Dr. Kuhne, in charge of the I. G. Titanium Plant at Leverkusen, Germany, the latter definitely said that it all seemed O. K. to him and he would write a letter of approval. Instead of the letter of approval, this cable was received.

There is no further move to be made now, as the next step is up to National Lead. I am sending this copy to you instead of Mr. Grasselli, inasmuch as I talked it over with you. You will no doubt explain it further to him.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 269

Newark, New Jersey,
June 29, 1933.

CONFIDENTIAL

T. R. HANLEY, LEGAL DEPT.,
WILMINGTON.

KREBS-TITANIUM PIGMENT AGREEMENT

Attached is a copy of the letter to the National Lead Company, which we drafted in your office on Tuesday, and which I delivered to Mr. Beschorman yesterday.

He seemed to feel this ought to take care of the situation, so we now have to sit back and leave the rest to them. He again assured me he saw no reason why I. G. do not come through with a flat approval, and had been led to expect this when he talked to them in Germany.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 270

COPY

Letterhead of

NATIONAL LEAD COMPANY

New York, July 14, 1933.

Mr. H. S. Tasker, Vice Chairman,
British Titan Products Company Limited,
London House,
3, New London Street,
London, E. C. 3, England.

Dear Mr. Tasker:

Referring to the Minutes of the Meeting held on May 29th, I note the following under "developments".

"DEVELOPMENTS. Mr. Beschorman mentioned that Duponts and Titan Company Inc. had entered into agreement whereby the benefits of any developments by the Dupont Co. in Titan Pigments would be at the disposal of the National Lead Company and their associates, and this would apply particularly to territories outside America.

"Major Barley stated that the I. C. I. were very pleased at this decision, the effect of which would be complete technical co-operation between Duponts, National Lead Company and this Company, who would thus secure the benefit of the commercial co-operation.

"The Chairman stated that he welcomed and approved this measure of co-operation, and it met with the full support of the Board."

Exhibit 270

This does not cover the subject as presented by Major Barley or myself. Unless I am very much mistaken, Major Barley made a motion that the British Titan Products Company approve the proposed contract between Titanium Pigment Company and Krebs Pigment and Color Corporation for co-operation in the United States, which was extended to our foreign associates through the making available of all developments by both parties. This motion I seconded, and it was this motion which I presumed the Board approved.

Major Barley had a copy of the proposed contract, but for your records I am sending you a copy of the proposed contract, together with copies of two letters—one from the Krebs Pigment & Color Corporation and one from myself to the I. G. Farbenindustrie, making several points (which were designedly not gone into fully in the contract for legal reasons) more specific.

May I suggest that either the Minutes of the May 29th meeting be corrected, or if it is too late that a resolution on the line of my understanding be passed at the next Board Meeting.

Very truly yours,

(Sgd) W. C. BESCHORMAN,
Executive Vice President.

Exhibit 271

July 17, 1933.

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

I am enclosing you herewith copy of letter written I. G. Farbenindustrie on the 12th, which copy I believe you read when in the office the other day. This for your records.

Very truly yours,

Executive Vice President.

Exhibit 271

COPY

July 12, 1933

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you a copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory

granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in a position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also own own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

Exhibit 271

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T.P.Co.

Exhibit 272

July 18, 1933.

MEMORANDUM—To Mr. Beschorman.

In view of the situation arising out of the agreement contemplated to be made with Krebs & Co., I beg to point out the following:

It is foreseen that compensations shall mutually be given by Krebs and T. G. m. b. H. respectively the other European companies, for patents or licenses under patents belonging to each party.

Titan Company, Inc. and A/S have no Titanium factory of its own any longer, taking its requirements from T. G. m. b. H. It maintains, therefore, only a very small staff of expert chemists chiefly occupied with the patents and aiding me with regard to chemical questions.

Although some patents have been applied for by this organization, it is not to be expected that much development work will emanate from this organization which has no factory and no facilities for experiments, except and I hope therefore it will be possible for you when dealing with Krebs on this side to arrange such acquisition for Titan Company, Inc. on very reasonable terms.

G. JEBSEN

Exhibit 273

COPY

July 21, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Gruneburgplatz, Germany
Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W. C. Beschorman, Executive Vice President, National Lead Company, and a Vice-President of the Titan Company, Inc. and a director of the Titanium Pigment Co., Inc., and beg to enclose a letter from him which he, on my request, has directed to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Very truly yours

(Signed) G. JEBSEN
Vice President.

Exhibit 273

July 12, 1933.

I. G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplats.

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letter of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both as to use, manufacture and selling to the territory

granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outsitle of their territory which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your

Exhibit 273

interests than to complicate the situation with a separate contract.

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advise from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours

Executive Vice President.

Copy to—Dr. Kuhne
Dr. Jebsen
Mr. Rupprecht
Mr. Tasker, Vice Chairman, British T. P. Co.

Exhibit 273

R. C. A. COMMUNICATIONS, INC.

RADIOGRAM

GC17XIX RFK578

PARIS 133/130 22 1350 11/50

L C BESCHORMAN LEAD CO NEW YORK

AGREEMENT KREBS ACCEPTABLE TO IG-FARBENINDUSTRIE PROVIDED CLEARLY EXPRESSED BY KREBS IN SOME FORM THAT THEY WILL RESPECT TITANGESELLSCHAFTS TERRITORY NOT MANUFACTURE THERE MAKE NO DELIVERIES DIRECT OR BY CUSTOMERS GIVE NO SUBLICENSES AND NO TECHNICAL AID FOR MANUFACTURE WITHIN OR FOR THAT TERRITORY STOP IG CONSIDERS

THREE YEARS AGREEMENT SHORT IN VIEW OF PARTING WITH EXPERIENCE AND SUGGESTS FIVE YEARS BUT MAKES IT NO CONDITION STOP * * IG S RESERVATIONS SHOULD ALSO APPLY TITANINCS TERRITORY STOP AGREEMENT AUSSIG TITANGESELLSCHAFT PRACTICALLY COMPLETED STOP BLUMENFELD WITH TECHNICIAN INTENDS VISIT KREBS FACTORY STOP BLUMENFELD READY ERECT FACTORY BELGIUM VERY FAVOURABLE

CONDITIONS WILLING DROP THIS PROVIDED QUOTA ARRANGEMENT AND POSSIBLY CLOSER COOPERATION TITANINCS TERRITORY OUTSIDE BRITISH EMPIRE STOP CONSIDER NECESSARY I GO NEW YORK SATURDAY JULY FIRST DISCUSS EUROPEAN SITUATION CABLE

JEBSEN

Exhibit 273

COPY

Blind copies to:
E. C. Thompson— Cleveland
Wm. Richter — Wil.
T. R. Hanley — "

June 28, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway
New York City, New York.

Dear Mr. Beschorman:

We have considered the various points raised by I. G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article II of the Krebs Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

Exhibit 273

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive basis. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally, we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of such care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Very truly yours,

PRESIDENT.

CHR:s

Exhibit 274

26 Rue de la Pepiniere
Paris, France. July 21, 1933.

Dr. H. Kühne
I. G. Farbenindustrie Aktiengesellschaft
Leverkusen b. Cologne
Germany.

Dear Dr. Kühne:

I enclose copy of my letter of today to I. G. Farbenindustrie Aktiengesellschaft transmitting a letter from Mr. W. C. Beschorman, copy of which also is enclosed, dealing with the various points raised in the letter from I. G. Farbenindustrie of June 20th to me regarding the contemplated agreement between Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation.

I have met Mr. Rupprecht, President of Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

It is considered desirable to treat the matter strictly confidential.

With kindest regards,

Very truly yours,

P.S. I will be back in Paris at the end of this month or the first days of August and expect to have shortly thereafter for a holiday.

Exhibit 274

COPY

July 21, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Gruneburgplatz, Germany
Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W. C. Beschorman, Executive Vice President, National Lead Company, and a Vice-President of the Titan Company, Inc. and a director of the Titanium Pigment Co., Inc., and beg to enclose a letter from him which he, on my request, has directed to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Very truly yours

(Signed) G. JEBSEN
Vice President.

Exhibit 275

July 21, 1933.

26 Rue de la Pepiniere
Paris, France

M. Weber Andreae, Esq.
c/o I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Dear Mr. Weber Andreae:

I beg enclosed to send to you a letter addressed to I. G. Farbenindustrie with enclosures.

I have met Mr. Rupprecht, President of the Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

Awaiting I. G. Farbenindustrie's answer, no agreement has been signed yet. It is considered desirable to treat the matter strictly confidential.

With kind regards,

Very truly yours,

P. S.—I will be back in Paris at the end of this month or the first days of August, and expect to leave shortly thereafter for a holiday.

Exhibit 276

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 24, 1933.

CONFIDENTIAL

C. H. RUPPRECHT, PRESIDENT,
KREBS PIGMENT & COLOR CORPORATION,
NEWARK, N. J.

TITANIUM PIGMENTS AGREEMENT

You will recall that some weeks ago you and I discussed the draft of a letter which I had prepared to send to Mr. Ewing, advising him of the agreement between Krebs and The Titanium Pigment Company. You agreed with the draft as prepared but I have been holding it awaiting advice from you that the agreement has actually been signed. Will you please advise whether this is the case, so that I may release the letter?

In case the agreement has not been signed but probably will be in the near future, I think it is probably best to let the letter go ahead anyhow as, no doubt, I.C.I. are familiar with it and may be discussing it with Ewing, resulting in some embarrassment to him through his ignorance in the matter.

To refresh your memory, I am enclosing a draft of the letter which you have approved.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT

Director.

WRS/C

Exhibit 276

Copies to:—
F. W. Pickard, Vice Pres.,
J. T. Brown, Vice Pres.,
J. E. Crane, Vice Pres.,
Dr. F. Sparre, Dir., Development Dept.,
C. H. Rupprecht, Pres., Krebs Corp.,
Newark, N. J.
G. W. White, Mgr., I.C.I.—New York.

July 24, 1933.

Letter No. 657

H. H. EWING, MANAGER, (2)
LONDON OFFICE.

TITANIUM PIGMENTS AGREEMENT

There have been some recent developments in the titanium position here, concerning which we wish you to be advised, and which we will also ask you to explain to our friends in I.C.I.

You are, I believe, familiar with the fact that the patent situation on titanium has been very confusing. In an effort to improve this situation, an agreement has now been signed, between Krebs Pigment & Color Corporation and The Titanium Pigment Company (owned by National Lead), which provides for cross licensing of all patents now, or hereafter during the term of the contract, owned by both parties; license will be non-exclusive and will cover the right to manufacture within the U.S., its colonies and possessions, and to sell the products resulting from the use of the licensed processes throughout the U.S., its colonies and possessions, Mexico, Central America, the West In-

dies and South America. It also provides for the exchange of technical information in the field covered. Article V, which is of particular interest to you and to I.C.I., reads as follows:—

"ARTICLE V

Each party hereto agrees during the term of this Agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and within the territory of the license granted by this Agreement, under any United States Letters Patent and/or applications therefor owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

"Krebs further agrees that during the term of this Agreement it will offer to any foreign associate of Titanium that may be designated by Titanium, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license within the limits of the Licensed Field under any patent relating to the Licensed Field issued in any country of continental Europe or in Great Britain which now is or hereafter and during the term of this Agreement may be owned by or otherwise at the disposal of Krebs."

Canada is not covered by the agreement, for the reason that we have no patent rights in Canada. You are familiar

with this situation and understand that the way is still open for C.I.L. to acquire the Blumenfeld patents if they desire, and in the event they should do so, it is quite possible that further negotiations with National Lead would result in extending the present arrangement to Canada.

You will probably find, in discussing this with I.C.I., that they are already familiar with the agreement, inasmuch as the National Lead representatives wished to consult their foreign affiliates before finally signing. For this reason, we did not feel free to inform I.C.I. of this development until the agreement was actually signed. I believe I.C.I. will agree that its execution has put our relationship with them back on a better basis, as regards titanium, than had been the case since I.C.I. entered the British Titan Products, Ltd. While titanium is excluded from the I.C.I.-duPont Agreement, the present Krebs-Titanium Pigment Agreement does provide the opportunity for I.C.I. to enjoy, indirectly, the benefits of technical progress made by Krebs which result in patents. On the other hand, it also makes it obligatory for us to offer first to National Lead's other European associates non-exclusive rights to any patents in this field, but in view of the arrangements which have been reached by National Lead and I.C.I. on titanium, as we understand them, this would not seem to work any hardship on I.C.I.

We are enclosing an extra copy of this letter which you may forward to I.C.I. if you wish.

FOREIGN RELATIONS DEPARTMENT,

WENDELL R. SWINT, DIRECTOR.

WRS/C

Exhibit 277

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

Newark, New Jersey,
July 25, 1933.

W. R. SWINT, DIRECTOR,
FOREIGN RELATIONS DEPARTMENT,
WILMINGTON.

TITANIUM PIGMENTS AGREEMENT

I have your letter of July 24th, and while the agreement has not yet been definitely signed, due to some of the I. G. questions, I see no reason for withholding your letter to London Office.

You might pin a note to Ewing's copy and tell him that the document has not yet been signed, but we are expecting same to be done almost any day, pending information from I.G. putting their final approval on the deal.

I mentioned to you some of the peculiar questions they raised, but we think these have been satisfactorily answered.

C. H. RUPPRECHT.

CHR:s

Exhibit 278

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

August 3, 1933

Leonard Smith, Esq.
Imperial Chemical Industries, Ltd.,
Millbank, S. W. 1.

TITANIUM PIGMENTS AGREEMENT

Dear Mr. Smith:—

I am enclosing copy of Foreign Relations Department's Letter No. 657 of July 24, which was just received this morning. I believe you will find the letter self-explanatory.

The Titanium business throughout the world seems to be divided into two groups—the one which may be classified as the "Blumenfeld Group", including: in addition to Krebs Co.; Montecatini in Italy; Societe Terres Rares in France; and United Chemical & Metallurgical Works, Aussig; and the other: the "I. G.", or "National Lead Group", which includes National Lead in the U. S. A.; I. G. Farbenindustrie; and the Norwegians. Your situation in England is a bit more complicated, as Blumenfeld still possesses his rights for England, and I understood that the group which I. C. I. has joined, and which includes also National Lead representatives, is about to make some arrangement with him. At any rate, the move which has culminated in this agreement in the U. S. A. is an attempt to bring the two groups together, and I understand that a similar move is on foot in Europe. We look upon this Patent Pool as a definite advance in cooperation and the strengthening of both parties' position to the exclusion of outsiders.

Exhibit 278

With reference to the du Pont/I. C. I. Patents & Processes Agreement, Titanium has been excluded from that Agreement, on approval of both parties. However, I. C. I. will enjoy indirectly, although not through the medium of the P. & P. Agreement, those privileges which would otherwise have passed directly had I. C. I. been active in Titanium manufacture and had we not made the agreement with Commercial Solvents at the time of the formation of the Krebs Company.

Mr. Mitchell has now agreed this. Previously Titanium Pigments were "inactive" under P. & P. agreement.
(sgd.) S.J.G.

If there are any questions which may arise, please do not hesitate to place them before me. Kind regards,

Yours very truly,

E. I. DU PONT DE NEMOURS & Co.
European Manager.

HHE/AAD
encl. 1.

Exhibit 279

Letterhead of

TITAN COMPANY, INC.

Paris, August 9th, 1933.

W. C. Beschorman Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Beschorman:

RE: KREBS AGREEMENT AND I. G.

I incidentally met Mr. Weber-Andrea in London in the I. C. I. building, and we had a short talk, during which he promised to deal with the above matter immediately on his return to Frankfort. He was, though, going away on holiday at the end of last week, and Dr. Kühne would also be absent.

I have had several telephone conversations with Mr. Weber-Andrea from here, which resulted in a letter to me as per copy enclosed. A draft was sent me beforehand, to which I suggested some changes, as the matter of invention of "outstanding importance" was not considered. It has, however, been overlooked that the "licensed Field" in the contemplated Krebs agreement is a different one from that of the Titangesellschaft's agreement. You will, however, gather from the letter, that the Germans wish to make no difficulties.

The I. G.'s letter seen in connection with the previous correspondence and the draft of the Krebs agreement seems,

though, to meet the case, and when Mr. Weber-Andrea returns in September, I think a supplementary letter clearing the point can be arranged. I had Mr. Borgwardt on the telephone, who considered the word "Gebietsabgrenzungen" (delimitations) to refer only to "boundaries of territories". In that case the matter is clear. Mr. Borgwardt is, though, not in an authoritative position re such a question.

I have had two conversations with Mr. Blumenfeld since my return. He has now reduced his demand as to quota to the following:

FRANCE	55% of the first 1000 tons of TiO_2,
	45% " " next " " " "

and then 50% of the exceeding quantities.

BELGIUM & HOLLAND	30%.

It seems that we will have to accept this, if we shall make an arrangement with him, as he evidently considers his position with the factory in France and the political nationalistic tendencies entitle him to this.

With regard to Montecatini's export, I have agreed, that he and I shall give room for 75 tons TiO_2 to be placed in France, Belgium and Holland, at prices corresponding to what we obtain, and to be divided according to the consumption of white pigments in these markets, and the quotas agreed upon. Mr. Blumenfeld thinks, that Montecatini might be given the right to a total export of 600 tons, to be reduced as the consumption develops later on. Of the remaining 525 tons he has suggested 250 tons to be sold to the English market, or if the English prices go too low, to be to Montecatini's charge. The disposal of the remaining 275 tons is still a puzzle. A considerable part

of it should though be allowed sold for the account of Montecatini in Japan, China, Spain, Portugal, South-America—those countries which he intended to give Aussig.

I have suggested to him to make arrangements for these countries directly with T. G., as Aussig in this connection only will represent an extra charge. Blumenfeld feels though a moral obligation not to do so without Mr. Mayer's consent.

With regard to the other points in Mr. Chase's list, he seems to find these in order, but we did not go into a closer interpretation of each point at present, with the exception of No. 10: "Delivery of products on a mutual basis", which he interpreted to mean the same price for the same quality ab works—Leverkusen or Thann.

We agreed to postpone further negotiations until middle or latter part of September. In the meantime Mr. Blumenfeld intended to see Mr. Donegani of Montecatini, and Mr. Mayer.

I leave to-day for my holiday in the Italian Tyrol, and intend on my return journey to visit Montecatini in Italy.

With kindest regards,

Yours very truly,

G. JEBSEN

Encl. Copy of a letter from I. G. Farbenind. of Aug. 7, 1933,

" Rough English translation of same.

P. S. It seems that *Montecatini* has had quite a nice development of sales to the British Empire last year. Official export statistics show:

Exhibit 279

	1931	*1932*
Export to GREAT BRITAIN:	284 tons	369 tons
" " AUSTRALIA:	34 tons	92 tons
" " NEW ZEALAND:	0 ton	10 tons
" " STRAITS SETTLEMENT:	0 ton	13 tons

Greeff's sales of TiO_2 (in metric tons) were as follows:

	1931	*1932*
To GREAT BRITAIN:	117 tons	359 tons
To AUSTRALIA:	0 ton	11 tons
To NEW ZEALAND:	0 ton	0 ton

Titan Co.'s deliveries (in metric tons) were as follows:

	1931	*1932*
To STRAITS SETTLEMENT:		
Extra "T"	0 ton	25 tons
Standard "T"	20 tons	5 tons

Exhibit 279

TRANSLATION

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20
(Legal Department)

Dr. Jebsen
26; rue de la Pépinière
Paris, France,

August 7th 1933.

Dear Dr. Jebsen,

The point of view which the National Lead Co. has taken in the letter of July 12th 1933 signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933 signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th 1933.

Your declaration that the duration of the agreement will not end after three years, also that the licenses which Titangesellschaft will receive from Krebs, will be granted, except in exceptional cases, only against a nominal fee, more than suffice for us. The exceptional cases concern

possible inventions by Krebs of especially outstanding importance. Krebs shall offer us these on reasonable conditions. Exceptionally, Krebs will though be free to utilize these especially outstanding inventions in T.G. territory in case T.G. does not accept, within reasonable time, an offer on reasonable conditions.

Our consent to the agreement between Krebs Pigment and Color Corporation and Titanium Pigment Company being closed is given with the reservation that for us, respectively Titangesellschaft, no liabilities may arise from same which are not compatible with the existing contractual obligations.

We beg to add our heartiest thanks for the trouble you have taken and remain

Yours very truly

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

(signed) Weber-Andreae—(Signed) Mayer-Wegelin.

Exhibit 279

KOPIE

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20.

Herrn Dr. Jebsen,
26 Rue de la Pépinière,
Paris, Frankreich.

7. August 1933.

Juristische Abteilg.

Die Stellungnahme, die die National Lead Company in dem von Herrn Vicepräsidenten Beschorman unterzeichneten Briefe vom 12. Juli d.J. eingenommen hat und welche von einem uns ebenfalls in Kopie vorgelegten Schreiben der Krebs Pigment & Color Corporation von 28.6.33, unterschrieben durch Herrn Präsidenten C. H. Rupprecht, ausgaht, entspricht zwar nicht formell den Wünschen, die wir in unserem Briefe vom 20. Juni d.J. Ihnen mitteilten. Wir entnehmen diesen Briefen jedoch die Zusage, dass sowohl die National Lead Company, als auch die Titanium Pigment Company, als auch deren neuer amerikanischer Vertragspartner, die Krebs Pigment & Color Corporation, in loyaler Weise die Gebietsabgrenzungen hinsichtlich Fabrikation, Lizenzierung und Verkauf wahren werden, welche in dem zwischen der Titan Company und der Titan-Gesellschaft abgeschlossenen Vertrage festgesetzt sind. Im Vertrauen auf diese loyalen Busagen verzichten wir auf die formelle Bestätigung unserer im Schreiben vom 20.6.33 ausgesprochenen Wünsche.

Ihre Erklärungen, dass die Dauer des Vertrages keineswegs nach 3 Jahren enden wird, sowie dass die Lizenzen, Welche die Titan-Gesellschaft von Krebs erhalten

wird, von Ausnahmefällen abgesehen, nur gegen eine Anerkennungagebühr erteilt werden, genügen uns vollauf. Die Ausnahmefälle betreffen etwaige Erfindungen Krebs' von besonders hervorragender Bedeutung; diese muss Krebs zu angemessenen Bedingungen anbieten, Krebs wird jedoch ausnahmeweise für die Verwertung dieser besonders hervorragenden Erfindungen im Gebiete der Titan-Gesellschaft frei, falls die Titan-Gessellschaft ein Angebot zu angemessenen Bedingungen innerhalb angemessener Zeit nicht acceptiert.

Unsere Einwilligung in den Abschluss des Vertrages zwischen Krebs Pigment & Color Corporation und der Titanium Pigment Company erfolgt mit dem Vorbehalt, dass uns bezw. der Titan-Gesellschaft daraus nicht Verplichtungen erwachsen dürfen, die mit den bisherigen vertraglichen Bindungen nicht vereinbar sind.

Wir verbinden mit dieser Mitteilung unseren verbindlichsten Dank für Ihre Bemühungen und begrüssen Sie,

mit vorzüglicher Hochachtung

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

gez. Weber-Andrea. gez. Mayer-Wegelin.

MW/Tr.

Exhibit 280

Letterhead of

NATIONAL LEAD CO.

New York, August 28, 1933.

Krebs Pigment & Color Company
256 Vanderpool Avenue
Newark, N. J.

Attention Mr. Z. E. Phelps

Dear Sirs:

I am handing you herewith Agreement between the Krebs Pigment & Color Corporation and the Titanium Pigment Company, Inc. properly signed and sealed by the Titanium Pigment Company; and also three letters signed by F. M. Carter, President, National Lead Company, addressed one to Commercial Solvents Corporation, one to E. I. DuPont de Nemours & Co. and one to Grasselli Chemical Company, to the effect that our titanium pigment business in the United States will be conducted exclusively through the Titanium Pigment Company whose stock is owned by National Lead Company 100%.

Article 3 of the Agreement referring to disclosures, and conversations between Mr. Rupprecht and the writer were to the effect that we should each appoint a committee consisting of an official of the Company and probably two technical experts. This matter can be left until Mr. Rupprecht's return. The committee from the Titanium Pigment Company will probably consist of Mr. W. F. Meredith, President, J. E. Barton and W. F. Washburn. This is a preliminary appointment and the gentlemen in question will not be officially appointed until we receive your approval of their appointment. In other words, we are following some of the diplomatic usages between countries to find if our envoys will be persona grata.

Very truly yours

W. C. BESCHORMAN
Executive Vice President

Exhibit 281

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

August 29, 1933.

CONFIDENTIAL

W. C. Beschorman, Exec. Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We wish to acknowledge your letter of August 28th, together with our copy of the executed agreement; also three letters signed by Mr. F. M. Carter, President of National Lead Company.

We appreciate your promptness in executing these papers, and feel sure that this agreement will work to our mutual benefit over a future period.

Promptly upon Mr. Rupprecht's return on September 5th, we will appoint a Committee to act for Krebs Corporation, and it can then be arranged at your convenience to have our people get together for their first meeting.

In the meantime, if anything should develop where we can give you information or be of any assistance, we hope you will call upon us.

Very truly yours,

Z. PHELPS

Z. PHELPS, Vice President

ZP:s

Exhibit 282

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

August 30, 1933.

Z. PHELPS, V.P.,
KREBS PIGMENT & COLOR CORP.,
NEWARK, N. J.

Thanks very much for your letter of August 29th, attaching copies of agreement with The Titanium Pigment Company and exchange of letters with National Lead.

We have forwarded a copy of the agreement to the London Office for their files.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, Asst. Director.

JKJ/C

J. K. Jenney.

Exhibit 283

August 30, 1933.

Letter No. 694

LONDON OFFICE.

You will be interested to know that agreement between Krebs and The Titanium Pigment Co., Inc., has now been executed and this whole matter brought to a satisfactory conclusion.

We attach, for your files, a copy of this agreement. Letters have also been exchanged between duPont, National Lead and Commercial Solvents, stating that their Titanium Pigments business in the United States over a future period will be conducted exclusively through The Titanium Pigment Company and Krebs Pigment & Color Corporation.

FOREIGN RELATIONS DEPARTMENT,

J. K. JENNEY, Asst. Director.

JKJ/C

Exhibit 284

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL September 6, 1933.

W. C. Beschorman, Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

Returning from vacation I note your letter of August 28th, addressed to Mr. Phelps, which he acknowledged on the 29th, and I appreciate the completion of these negotiations. I am confident that our agreement will prove of continuing and lasting benefit to both of our organizations.

Relative to the appointment of officials to represent our respective Companies, there is certainly no occasion to question the individuals you have nominated and we shall be very happy to cooperate with them.

In behalf of Krebs, I would offer for your approval Mr. Phelps and the writer as alternates, representing the official of the Company; Mr. J. F. Daley, our Production Manager; and Dr. J. E. Booge, Technical Director. I would also like to suggest Mr. M. L. Hanahan, our Assistant Technical Director, as an alternate for Dr. Booge, if necessary.

I hardly think it will be necessary for an official to be present at all of the discussions, after the machinery is set up to move smoothly through our respective technical representatives. I will be very glad to come in, at your convenience, to discuss arrangements for the first session.

With kindest regards, I am

Very truly yours,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Exhibit 285

Letterhead of

NATIONAL LEAD COMPANY

New York, September 26, 1933.

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

I am in receipt of your favor of the 6th advising us of the Krebs representation on the joint committee for exchange of information.

The representatives of the Titanium Pigment Company on this Committee will consist of the same parties as advised under date of August 28th with the addition of Dr. G. W. Thompson as alternate for Mr. W. F. Meredith, and Mr. A. S. Moses as alternate for either Mr. J. E. Barton or Mr. W. F. Washburn.

I would suggest a communication with Mr. W. F. Meredith at an early date to arrange for the initial meeting.

With kindest regards,

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 286

Blind copies to:

Messrs. T. S. Grasselli—Cleve.
Wm. Richter—Wil.
M. F. Chase—New York
T. R. Hanley—Wil.
H. H. Ewing—London
Dr. Sparre—Wil.
Foreign Relations Dept.—Wil.

} Not shown on M. F. Chase's copy

October 9, 1933.

Dear Dr. Blumenfeld:—

I beg to acknowledge receipt of your letter of September 18th, 1933. I regret very much that apparently some misunderstanding remains in your mind as to the relationship between Krebs Pigment & Color Corporation and Societe Terres Rares and you.

Our position in respect to the subject matter of your letter is simply this:

Krebs Pigment & Color Corporation purchased all of the assets of Commercial Pigments Corporation, on August 1, 1931, free of any contractual obligations. Included in these assets were the patents and inventions to which Commercial Pigments Corporation was entitled under their agreement of March 24, 1927 with Societe Terres Rares and you. You will note by reference to this agreement that Commercial Pigments Corporation was entitled to all inventions, patentable or not, relating to Titanium Oxide, which you or the French Company, discovered or possessed. The patents and inventions received by Krebs Pigment & Color Corporation from the Commercial Pigments Corporation were in the same category as its buildings, plants and physical property.

There is not nor has there ever been any contractual relationship between Krebs Pigment & Color Corporation

Exhibit 286

and Societe Terres Rares and you. Such a relationship did exist between you and Societe Terres Rares and Commercial Pigments Corporation but was not assumed by Krebs. This position, you will recall, was made clear to you by Messrs. Ticknor and Chase upon their visit to you in France in August 1931, when they stated that you would have to make a new arrangement with the Krebs Pigment & Color Corporation. Moreover, as we have previously advised you, the agreements between Commercial Pigments Corporation and your Company, were not assignable.

The Krebs Company received no inventions or patents from Societe Terres Rares or from you. All patents and inventions, with the rights to obtain patents therefor, were received from the Commercial Pigments Corporation and were included in the property purchased by Krebs from that Company.

In answer to the specific statements of your letter of September 18th, this Company has taken no patents on information received from your company. All of our patents are based on inventions made prior to August 1, 1931 and previously communicated to Commercial Pigments Corporation. Our correspondence since that date dealt only with formal matters of patent procedure on inventions previously owned by Commercial Pigments Corporation.

Therefore, since all our rights in patents and inventions were obtained from Commercial Pigments Corporation as part of the assets of that Corporation, we cannot recognize any obligation arising from contracts existing between Commercial Pigments Corporation and Societe Terres Rares and you.

Assuring you again of my sincere regard and with cordial good wishes, I am

Sincerely,

C. H. RUPPRECHT
PRESIDENT.

CHR:s

Exhibit 287

Letterhead of

TITAN COMPANY, INC.

Paris, October 11th, 1933.

W. C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman:

Upon leaving for Germany yesterday and referring to his letter No. 13, Dr. Jebsen has asked me to send you the enclosed copy No. 6 of a memorandum entitled "Short outline regarding the relations in the Titanium industry," which has been sent to the members of the Board in the British Titan Products Co.

Yours very truly,

S. J. HENRIKSSEN

Exhibit 287

Short Outline Regarding the Relations in the Titanium Industry

1) Between the parties of the National Lead Company's group

2) Between the parties of the Blumenfeld group

3) Connections between parties of both groups.

1) National Lead Company's Group.

Titanium Pigment Company Inc.—Titan Company Inc.

Agreement re technical cooperation and division of the world's markets.

The agreement provides for cooperation in periods of 10 years, to be announced 5 years before expiration. Term for expiration: December 31, 1946.

National Lead Company is the dominant shareholder in both companies.

Titanium Pigment Company has an exclusive right to the countries of the North-American Continent, and a non-exclusive right to the countries of South-America.

Titan Company Inc. has an exclusive right in all countries not mentioned above, and a non-exclusive sales right to the South-American countries.

The Company has agreements with various subsidiary and associated companies regarding technical and commercial cooperation in specific markets within its territory, as follows:

Exhibit 287

Titangesellschaft

Territory: Exclusive rights: Germany, Russia, Austria, Hungary, Czechoslovakia, Switzerland, Roumania, Yugoslavia, Bulgaria, Greece, Turkey, Japan, China, Spain, Portugal, Poland, Danzig,

Non exclusive rights: South America (excl. Guiana).

Duration: 30 years from December 31, 1927, depending upon certain reservations.

Prolongation of agreement in periods of 10 years, provided no announcement within 6 months before the expiration of a 10 years period.

British Titan Products Co.

Territory: British Empire including British Protectorates and Mandated Territories (except the Dominion of Canada, Newfoundland, British Honduras, Demerara, Falkland Islands and the West Indies and islands geographically appurtenant to the continent of North America) and Egypt.

Duration: 30 years from February 16, 1933, depending upon certain reservations. Thereafter any party may retire on 12 months notice.

Société Industrielle du Titane

Territory: France with colonies, dependencies, protectorates and mandated territories.

Duration: To December 31, 1941. Prolongation in periods of 10 years provided no determination within 6 years before the expiration of a 10 years period.

National Lead Company has controlling share interest.

Titan Co. A/S

This Company acts as agents for Titan Company Inc. in the markets in which the above named companies do not operate. Its subsidiary

Société Belge du Titane acts as agent for Belgium, Holland, Luxemburg and Colonies to these countries.

Titan Co. A/S's shares are owned substantially by the same interests as Titan Company Inc.'s.

2) Blumenfeld Group

The below information is based for the greatest part on verbal information acquired from time to time and is therefore subject to possible corrections.

Société de Produits Chimiques des Terres Rares, France

The Blumenfeld patents are principally held by this Company, which has arrangements with the following companies regarding commercial and technical cooperation:

Exhibit 287

Verein fur Chemische & Metallurgisshe Produktion, Aussig.

Commercial and technical cooperation with exchange of licenses and technical experience.

Territory: *Exclusive rights:* Germany with Danzig and Sarre - District, Czechoslovakia, Poland, German Austria, Hungary, Jougoslavia, Roumania, Russia.

Fabriques de Produite Chimiques de Thann & de Mulhouse.

Territory: Exclusive rights: France.

(Mr. Blumenfeld managing director).

This company is also exporting to various countries.

Societa Amonima Titanium (Montesatini)

Territory: Exclusive rights: Italy.

Is also exporting to various countries under rights from Mr. Blumenfeld, not clearly defined.

Krebs Pigment & Color Corporation (Du Pont).

This company has acquired the Blumenfeld patents for U.S.A., but no agreement exists regarding future exchange of licenses and technical experience.

Exhibit 287

3) Connections Between Parties of Both Groups.

Titanium Pigment Co.—Krebs Pigment & Color Corp.

Agreement regarding cooperation as submitted to board of British Titan Products Co.

Territory: It is understood that the Krebs Corp. will not manufacture or sell ouside the American Continent.

Duration: May be terminated by either party at any time after Dec. 31st, 1933, upon three years' notice.

Titanesellschaft—Verein fur Chemische & Metallurgisshe Produktion, Aussig.

Agreement under discussion regarding commercial cooperation.

Territory: Germany with Danzig and Sarre-District, Czechoslovakia, Poland, German Austria; Hungary, Jougoslavia, Roumania, Russia.

Duration: Until Dec. 31, 1936. Prolonged in periods of 2 years if not terminated within 6 months of the expiration of any period.

An extension to a technical cooperation has been under consideration, in which case the duration of the first period is foreseen to be to the end of 1939 with same term of notification.

October 1933

1584

Exhibit 288

Letterhead of

TITAN COMPANY, INC.

Paris, October 18th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

RE KREBS AGREEMENT AND I.G.

Dear Mr. Beschorman,

Referring to my letter of August 9th, I enclose copy and translation of a letter from I.G. of October 16th. This represents the supplementary letter I, in my letter of August 9, considered desirable.

As the various questions now should be clear, I suggest that a letter from the National Lead Company be sent to the I.G. Farbenindustrie Akt. Ges., expressing appreciation of the way in which they have met the situation and informing them that the agreement between the Titanium Pigment Co. and Krebs Pigment & Color Corporation has been concluded.* I suggest this letter be sent to me and I will forward the same, as I did with your letter of July 21st.

I beg to suggest that a letter also be sent to the British Titan Products Company, informing them of the agreement having been made.

I will now have to take up the matter with Société Industrielle du Titane, in order to get a resolution passed

*I presume then that this is the case. (?)

there, approving the proposed arrangement, and will inform you of this in due time.

In order to have matters in formal order, I suggest that a resolution also is passed in Titan Co. Inc., dealing with this matter. Titan Company Inc. is the Company who has made the agreements with the various European companies, and is the instrument through which the National Lead Company acts in these matters towards the European associates (apart from the question of my personal interest).

I was in Frankfurt the day Germany denounced their membership in the League of Nations, and Hitler published his manifest and his speech. It will interest you that the public was very calm and there were no demonstrations in this connection. From Germans I gather that the general sentiment was a relief that the situation now was made clear and they were generally in hope that this would bring the disarmament question to a final settlement. Hitler has forbidden political meetings and demonstrations and has evidently the country at present in his hands.

General business conditions in Germany show a distinct improvement as far as internal business is concerned. This seems, by the way, to be the case also in England and France, in spite of all political unrest.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 288

Translated from German.

I. G. Farbenindustrie Akt. Ges.

Frankfurt (Main) 20
October 16th 1933.

Dr. Jebsen
26 Rue de la Pépinière
Paris

We beg to refer to our letter of August 7th this year, and take pleasure in confirming that by delimitations in the sense of the first paragraph of the above mentioned letter are meant territorial delimitations and not delimitations of the nature of the technical subjects (sachlicher Natur). As far as the delimitations re the technical subjects of the agreement (sachliche Vertragsgebiet) are concerned, we agree to the definition as expressed in art. 1 of the agreement between the Titanium Pigment Company and the Krebs Pigment & Color Corp.

Yours very truly,

I. G. Farbenindustrie Aktiengesellschaft

(sign.) Weber-Andreae (sign.) .....

Exhibit 288

Kopie

I. G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Frankfurt (Main) 20

Jur. Abtlg. 16. Okt. 33.

Herrn
Dr. Jebsen
26 Rue de la Pépinière
Paris

Wir nehmen Bezug auf unser Schreiben vom 7. August d. Jrs. und bestätigen Ihnen gerne, dass unter Gebietsabgrenzungen im Sinne des ersten Absatzes des erwähnten Schreibens Territorial-Abgrenzungen gemeint sind und nicht Abgrenzungen sachlicher Natur. Was das sachliche Vertragagebiet betrifft, so sind wir mit der Definition, wie sie in Art. I des Vertrages zwischen Titanium Pigment Company und der Krebs Pigment and Color Corp. bezeichnet ist, einverstanden.

Mit vorzüglicher Hochachtung

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT.

(gez.) Weber Andrae (gez.) .....

Exhibit 289

October 23, 1933.

Mr. S. J. Henrikssen, Asst. Secretary
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Mr. Henrikssen:

I beg to acknowledge receipt of your letter of the 11th instant with enclosure of memorandum entitled "short outline regarding the relations in the Titanium industry". We are very glad indeed to have this information.

Yours very truly

Executive Vice President.

Exhibit 290

November 2, 1933.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

In compliance with yours of October 18th—No. 21—I am enclosing herewith a letter addressed to the I. G. Farbenindustrie for you to deliver to them in the usual course. Also enclosed you will find copy of my letter to the British Titan Products Company for your information.

I am glad to note your report on general business conditions in Germany, as well as France and England.

When you are next in London ask Edward deGreeff to let you read his copy of a letter which he wrote me on October 19th, giving his reactions to German conditions. It is the most enlightening letter or report that I have ever seen.

With kindest regards.

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

P. S. I have asked Mr. Cole to prepare a form of resolution to be adopted by the Directors of Titan Co., Inc., approving the Krebs-Titanium Agreement, in accordance with your suggestion, and enclose the same herewith. Please let me have your approval or criticism of this resolution as promptly as possible and formal action will be taken accordingly.

Exhibit 290

November 2, 1933.

I. G. Farbenindustrie Aktiengesellschaft
Verkaufagemeinschaft Chemikalien
20 Gruneburgplatz
Frankfurt (Main) Germany.

Dear Sirs:

We take pleasure in advising that the suggested cross-licensing agreement between the Titanium Pigment Company, wholly owned subsidiary of National Lead Company, and the Krebs Pigment and Color Corporation, a subsidiary of E. I. duPont de Nemours & Co., has been completed and signed, and is now in effect.

We want to express to you our appreciation of the way that you have cooperated with us and met the situation so far as this contract applies to the I. G. territory. We are very certain that the confidence imposed in us in this matter will rebound to your benefit in the future.

We are just having the pleasure of a visit from Dr. Raspé of Titangesellschaft. He was in Baltimore yesterday, and is still there today in company with our Mr. Washburn, spending all of his time in the Krebs Plant learning all that they have therein. I have also arranged for him to have the courtesy of the Krebs Company in visiting their large lithopone plant at Newark on his return to New York.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 290

November 2, 1933.

Mr. W. S. Robinson, Chairman of the Board,
British Titan Products Company Limited
95 Gresham Street
London, England.

Dear Mr. Robinson:

We take pleasure in advising that the suggested cross-licensing agreement between the Titanium Pigment Company, wholly owned subsidiary of National Lead Company, and the Kregs Pigment and Color Corporation, a subsidiary of E. I. duPont de Nemours & Co., has been completed and signed, and is now in effect.

We want to express to you, and through you to the Board, our appreciation of the cooperation vouch-safed us on the part of your Company, and am very confident that you will have no cause in the future to regret your action.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 291

TITAN COMPANY, INC.

Minutes of a Special Meeting of the Board of Directors held December 13, 1933.

A Special Meeting of the Board of Directors of TITAN COMPANY, INC. was held at 111 Broadway, New York, on the 13th day of December, 1933, at 2 o'clock in the afternoon, pursuant to the following written waiver of notice signed by all the Directors and fixing the time, place and purpose of the meeting.

Waiver of Notice.

We the undersigned, being all the Directors of Titan Company, Inc., do hereby waive any and all notice whatsoever of a Special Meeting of the Board of Directors of said corporation and of the time, place and purpose thereof, and do hereby designate and fix the 13th day of December, 1933, at 2 o'clock in the afternoon as the time, and No. 111 Broadway, in the Borough of Manhattan of the City of New York as the place, of said meeting, and we do hereby consent that any and all business may be transacted at said meeting that may be deemed desirable by the Directors present thereat.

Dated December 13, 1933.

E. J. CORNISH
F. M. CARTER
W. C. BESCHORMAN
G. JEBSEN

There were present William C. Beschorman, Fred M. Carter and Edward J. Cornish, constituting a majority and quorum of the Board.

Exhibit 291

The President, Mr. Cornish, occupied the chair, and the Secretary of the Company acted as Secretary of the meeting.

Upon separate motions the following resolutions were each unanimously adopted:

RESOLVED, that this corporation, as successor in interest of Titan Co. A/S under that certain Agreement between said Titan Co. A/S and The Titanium Pigment Company, Inc., dated July 30, 1920, hereby consents to and approves that certain Agreement between said The Titanium Pigment Company, Inc. and Krebs Pigment & Color Corporation dated January 1, 1933, submitted at this meeting, particularly in the respects in which the provisions of said Agreement dated January 1, 1933, do not strictly conform to the requirements of said Agreement dated July 30, 1920.

RESOLVED, that Gustav Jebsen of 26 Rue de la Pepiniere, Paris, France, a Vice President of this corporation, or failing him Alfred J. Thompson of Thames House, Queen Street Place, London, be and they hereby are authorized to act as the representatives of this corporation, as a Member of British Titan Products Company Limited, at any meeting of that Company or at any meeting of holders of any class of shares of that Company, and to exercise the same powers on behalf of this corporation as if they were respectively individual Members of said Company.

There being no further business the meeting adjourned.

M. DOUGLAS COLE
Secretary.

Exhibit 292

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

November 2, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:

One of the Departments of the du Pont Company, having an office in Kobe, Japan, sends through to us the attached paragraphs, in which I thought you might be interested.

This does not give me any immediate concern, however, knowing that the Japanese have flooded the American market with some pretty low-price stuff, and particularly under the recent conditions where currency favored them, I would not be surprised if one of these days we find them trying to come into this market with their Titanium products also.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Encl.

Exhibit 292

COPY

Dai Nihon Jinzo Hiryo will manufacture Titanium Oxide:

The manufacture of Titanium Oxide was started in Japan last year in a small mill at Azuma Cho, Mukijima Ku, Tokyo. But this concern was obliged to liquidate because it could not make profits.

The Sakai Kagakum Kogyo in Osaka, discovered ores at Awaji Island, and began experiments, and the Dai Nihon Jinzo Hiryo K.K., also began to experiment with this material. Both of them have completed their investigations, and are now preparing to start manufacture.

The Dai Nihon Jinzo Hiryo has built a mill on its Oji mill site, at a cost of Y50,000, and will install equipment to produce 30 tons a month. The mill will be in operation in October, and in November will have an output of 5 tons, and in December, 20 tons. The total capacity will be reached in January, or February, 1934.

Ore is being obtained in Fukushima, Chosen, Yamaguchi, and other parts of South-West Japan, but as the ores are all different, they must be treated in different ways. Recently 200 tons of Titanium White were imported from Singapore, and this will be used as raw material at first.

Exhibit 293

November 27, 1933.

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Avenue
Newark, New Jersey.

Dear Mr. Rupprecht:

I am enclosing you letter received from Paris under date of the 15th enclosing translations of German and Japanese letters as to the position of the Titanium industry in Japan. I thought these would be of interest to you. Please return at your convenience.

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 294

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

November 29, 1933.

W. C. Beschorman, Exec. Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

I appreciate very much your memorandum of November 27th, sending me translations of German and Japanese letters relative to the Titanium industry in Japan.

Apparently they are moving along to develop the manufacture of Titanium Oxide in Japan, and my only hope is that before they get to the point of having excess capacity to ship to this country, a better exchange situation will have developed, so that we will not be faced with any worries with respect to importations. I hear about so many Japanese products which are underselling American producers, first, due to their own low costs, and then aided largely by favorable exchange.

Thanks very much for the opportunity to read the attached translations.

Very truly yours

C. H. RUPPRECHT
PRESIDENT.

CHR:s
Encl.

Exhibit 295

Letterhead of
WESTERN UNION

May 5, 1937

C. P. Garesche
Titanium Pigment Corporation
Carondalet Station, St. Louis, Missouri.

Dupont is begging another hundred tons of twentyfive per-cent B for shipment direct to their paint plants Can you stretch a point and supply it Promised an answer in the morning

W. C. Beschorman

Exhibit 296

Copy to P. Southard—Office
J. F. Daley— "

June 21, 1937

MR. L. C. REED
OFFICE

Attached is National Lead's confirmation of purchase of 25,000 gross tons of M.K. ilmenite for shipment from Colachel, India next season.

This will dispose of all the M.K. ilmenite; therefore, it will not be necessary for Krebs to bring in any of this grade of sand; in other words, all the ilmenite which we will purchase for shipment next season will be confined to the "Q" grade.

National will arrange for their own steamers to move this ilmenite from Colachel. Details for handling will be the same as they were for last season.

We are to receive our 5% commission, and you are to invoice National Lead Company on each lot of ilmenite when outturn weights at point of delivery are established.

Z. PHELPS

ZP/ed

Exhibit 296

COPY

Letterhead of

NATIONAL LEAD COMPANY

June 17, 1937

E. I. du Pont de Nemours & Co.
Krebs Pigments Dept.,
Wilmington, Delaware.

Attention Mr. Z. Phelps

Gentlemen:

This will confirm our telephone arrangement of yesterday afternoon by which we have purchased 25,000 G. T. (2240 lbs. each) of M. K. ilmenite, for shipment from Colachel, India, at a price of 20 shillings per G. T., f. a. s. vessels for loading in bulk.

The quality of this ore is guaranteed to be not less than 53.75% TiO_2 and any moisture in excess of 1% is to be deducted from the settlement weight. Settlement weights are to be unloading weights at New Orleans or Sayreville, N. J. Settlements are to be made as promptly as possible after unloading weights and ore analyses are available.

We are sending you this letter in duplicate so that you may sign both copies, retaining one for your files and returning one to us.

Very truly yours,

(SGD) C. F. GARESCHE, Manager
National Lead Company,
Titanium Division

ACCEPTED BY

Z. PHELPS
E. I. du Pont de Nemours & Co.
6/21/37

Exhibit 297

Letterhead of

E. I. du PONT de NEMOURS & COMPANY

July 28, 1937

C. F. Garesche, Manager,
Titanium Division, National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

Upon receiving your letter of July 26th we again communicated with Travancore Minerals Company in London to insist that they supply you with 6,000 tons of Quilon ilmenite for shipment between October 1st and December 31st, 1937 (your option) and were pleased to receive authority today to sell you this lot of ilmenite. In order to accommodate you, it has been arranged for Travancore to put in some more equipment which makes it possible to supply you with this ilmenite.

In accordance with our telephone conversation of this morning, this letter will confirm our sale to your company of 6,000 tons Quilon ilmenite at a price of 20 shillings per gross ton f. a. s. steamers for loading in bulk at Koilthottan, India. This lot of Quilon ilmenite is guaranteed to contain not less than 59.25% TiO_2 and any moisture in excess of 1½% is to be deducted from the outturn weights on which settlement is to be based. Due to having rougher weather at Koilthottan, it is necessary for us to have more tolerance as to moisture content than for the M. K. ilmenite previously sold you for shipment from Colachel. Settlement weights are to be the unloading weights at New Or-

leans or Sayreville, N. J. Terms, payment is to be made as promptly as possible after unloading weights and analysis of ilmenite are made available.

We are sending you this letter in duplicate so that you may sign both copies, retaining one for your files and returning one to us.

We wish to again thank you for favoring us with this business.

Yours very truly,

Z. PHELPS

Z. PHELPS, ASST. GENERAL MANAGER

Accepted by:

C. F. GARESCHÉ

ZP/dd

1191

Exhibit 298

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City, N. Y.

April 25, 1939.

Dear Mr. Garesche:

Referring to our telephone conversation of today—

Unless you advise to the contrary, we will consider that we have a definite appointment to meet Messrs. Stranad and Doyle, and yourself at 11:30 on next Tuesday morning, May 2nd, in Mr. Lesser's office, International Freighting Corporation, in the Whitehall Building at 17 Battery Place, New York.

Our principal purpose of this meeting is to discuss arrangements for the movement of the ilmenite which we have sold you for shipment from India during the coming shipping season. We would like for all of you to have lunch with us at that time.

Looking forward with much pleasure to seeing you next week, I am

Yours very truly,

Z. PHELPS

Z. PHELPS, Asst General Manager

ZP/dd

Exhibit 299

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City, New York.

May 20, 1940.

Dear Mr. Garesche:

This is to confirm our agreement that this company will supply and your company will purchase "Q" ilmenite upon the terms and conditions set forth in this letter.

The quantity shall consist of 70,000 gross tons, which quantity may be increased as follows:

Lot 1—You may elect to purchase an additional 10,000 gross tons by so notifying us in writing on or before June 15, 1940.

Lot 2—You will advise us not later than January, 1941 as to whether or not you desire to purchase an additional quantity of 10,000 gross tons; and after we correspond with Travancore Minerals Company, a mutual agreement will be reached as to the exact quantity of additional ilmenite to be covered by this lot.

All of the above ilmenite is for shipment from India between July 1, 1940 and April 7, 1941. The price is 21 shillings per gross ton free alongside steamer for loading in bulk at Port of Koilthottam. Shipments are to be made in approximately equal monthly quantities, but subject to your option to defer shipments during any period in which

the ocean freight rate from India to the United States exceeds $20 per gross ton. The chartering of your vessels for loading on specified dates is to be mutually agreed upon in accordance with our previous practice.

In event you exercise this option to defer shipments, such unshipped balance of ilmenite against your total tonnage purchased that is produced by Travancore Minerals Company and is stored at the close of the season, will be held for your account. On May 31, 1941 we are to bill you at 80% of the invoice value of these Ilmenite concentrates which are to be stored for your account, and you are to make prompt settlement on receipt of our invoice. In event you elect to exercise your option to defer shipments because of high ocean freight rate, it is understood that movement of the unshipped balance as of April 7, 1941 is to be completed with reasonable promptness during the following months when the ocean freight rate is not in excess of $20.

Travancore Minerals Company has received sanction from the Indian Government to permit shipments through the protected Port of Cochin during the monsoon season, and thirty days' advance notice is to be required on these shipments to permit moving the ilmenite from Koilthottam to this protected port. On such shipments that you make from the Port of Cochin, the following extra charges (over your base price of 21 shillings f.a.s. Koilthottam) are to apply:—

On your purchase of 70,000 gross tons: The extra charge per gross ton will be one shilling three pence on shipments up to 12,000 gross tons; and on any tonnage in excess of this quantity, the extra charge will be two shillings six pence.

Exhibit 299

If you exercise your options as to additional Lots 1 and 2, your extra charges will be one shilling three pence on a total quantity of 12,000 gross tons plus one-tenth of the excess of your purchases over 70,000 gross tons; and on any tonnage in excess of this total quantity, the extra charge will be two shillings six pence.

The quality of this "Q" ilmenite is to be substantially the same as supplied you last season, and is guaranteed to contain not less than 59.5% TiO_2. Any moisture in excess of 1.5% is to be deducted from the outturn weights (at port of discharge) on which settlement is to be based.

Settlements (in the form of pounds sterling as required by the British Government—terms cash) are to be made promptly after the unloading weights and ore analysis are available. In event a cargo is lost while enroute, prompt settlement is to be made, based on the quantity shown in the shipping papers. If, after being shipped a cargo should be held in any foreign port for as long as four months, then payment based on 95% of the shipping weights shall become due. Settlement for the balance shall be made (basis, outturn weights) when each cargo reached destination.

In the event of force majeure or other causes beyond the control of either party which prevent the delivery or the entry into this country of ilmenite, quantities so affected may be cancelled by written notice to the other party, provided that any such cancellation by National Lead shall be effected prior to the time the material is either delivered alongside steamer at Koilthottam or delivered to carrier for transportation to Cochin.

Exhibit 299

We greatly appreciate your favoring us with this ilmenite business, and you can depend upon us to render the best of service by supplying uniformly high quality ilmenite.

We are sending you this letter in duplicate, and request that you promptly note your acceptance on one copy and return same for our files.

Yours very truly,

Z. PHELPS

Z. Phelps, Asst. General Manager

ACCEPTED: May 23, 1940

By:

C. F. GARESCHE

Manager, Titanium Division

Exhibit 300

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

March 14, 1941

Mr. C. F. Garesche,
Titanium Pigments Corp.,
111 Broadway,
New York City, N. Y.

Dear Mr. Garesche:

I find that our Purchase Order No. NZ-2025, covering 100 tons of your standard quality Titanox AA, for immediate shipment to us at Baltimore, was mailed under separate cover to your New York Office. We want to again express our appreciation for supplying us with this pigment at this time.

In accordance with our arrangment made by telephone, we are entering your order for 200 gross tons of Quilon Indian ilmenite which we will ship to Titanium Pigments Corporation at Phoenix, New Jersey, Raritan River Railway Delivery, when we discharge our next ilmenite cargo that arrives at Port of Wilmington. The price on this ilmenite will be $33 per gross ton, freight allowed to Phoenix, New Jersey, terms cash. Railroad weights to be used as basis for determining the quantity shipped.

We will load this ilmenite into gondola flat-bottom railroad cars; and as you suggest, we will fill the car to within about one foot of the top so as to reduce to a minimum any wind loss of the ilmenite.

If you care to send us your regular formal order for this ilmenite, please address same for the attention of the writer at Wilmington.

Yours very truly,

Z. PHELPS

Z. Phelps, Asst. General Manager

ZP/dd

Exhibit 301

March 17, 1941

Mr. Z. Phelps, Assistant Gen. Manager
Krebs Pigments Department,
E. I. duPont de Nemour & Company,
Wilmington, Del.

Dear Mr. Phelps:

Yours of the 14th as well as your Order No. MZ-2025 are acknowledged.

Everything has been arranged for prompt shipment of this pigment from our warehouse stock and in our bags.

We are very glad to be able to help you out to this extent and only regret that we could not give you as much as you desired.

Yours very truly,

Manager

Exhibit 302

September 8, 1937

Mr. C. F. Garesche, Manager
Titanium Division, National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Garesche:

I have made an appointment with Mr. Rupprecht for Thursday morning, September 16th, at 10:30, at which time we will outline a programme for utilizing both forces —Du Pont and Titanium—instead of one.

Mr. Rupprecht will have Dr. Booge with him, and I would like you to arrange for you and Mr. Turner to be in my office at that time.

Very truly yours,

W. C. Beschorman
Executive Vice President

Exhibit 303

October 1, 1941.

Mr. F. W. Rockwell, Chairman
Executive Committee,
National Lead Company,
Building

Dear Mr. Rockwell:

We have just received authorization from DuPont to proceed with the purchase of the 4th unit of milling machinery to serve their requirements. This will mean that the mill building must be extended at an estimated cost of $63,000.

We are recommending that we be authorized by the Executive Committee to extend this building to provide space for a 5th unit which we feel will be necessary for our own use within three years' time. This extension can be done more economically at this time as shown by the following figures:

If 2 units are to be erected separately, they will cost $63,000 each

If 2 units are to be erected simultaneously, they will cost 115,000.

Therefore, a 5th unit for our future use will cost net $115,000 less $63,000, or $52,000.

Not only will we save $11,000, but we estimate that we may be in position to save at least two months' time in getting a 5th unit into operation when the need arises. We, therefore, recommend that the Executive Committee authorize us to prepare a C&R to include the building of a 5th unit.

Yours very truly,

GARESCHE

Manager.

Exhibit 304

17th July 1931.

W. D. Ticknor Esq.,
President,
Commercial Solvents Corporation,
230 Park Avenue,
NEW YORK CITY, U.S.A.

Dear Ticknor:

Following our conversation on the telephone yesterday, which really dealt with the subject matter of two letters from you and one from Mr. Chase dated July 7th, in view of what you told me I have arranged to leave everything in abeyance pending Mr. Chase's arrival.

However there is one matter with which I did not deal and which requires explanation. I refer to the purchase of the D.G.A. stock of Ilmenite. The history of this transaction is as follows:—

We received a letter from Ziegler dated 29th May stating that the I.G. had made a firm offer for their patents of Marks 30,000 (£1,500) together with an offer to take over part of their machinery at half cost price. Ziegler explained however that he was more interested in selling their stock of sand at a reasonable price. The matter could not be left over for long so he asked if we were prepared to make an offer. At that time, as you know, you had just left and Mr. Chase was still over with me.

We were considering the whole of the Titanium situation, and we felt that if the Auer patents got into the hands of the I.G. that group of patents, numbering some 87, added to the National Lead patents, might make it quite awkward for us. On the other hand if we had the Auer patents as well as the Blumenfeld patents the boot was on the other

foot, and if we succeeded in reaching an agreement with the National Lead Company, their patents plus the Blumenfeld patents plus the Auer patents would be a very formidable setup against anybody attempting to enter the Titanium field.

Blumenfeld, whom we consulted, expressed the view that the Auer patents were worth at least £2,000, and probably cost very much more than that figure to take out and maintain in force up to that date.

Mr. Chase was strongly of opinion that in these circumstances it was highly desirable for us to get hold of the Auer patents and I must say that I thoroughly agreed with him.

The next question was as to how to do it. I think it was Mr. Chase's suggestion that this should be done officially by T.M.C. We estimated that we should be able to sell the bulk of the sand to Aussig at a profit; we should make a loss on the rest of the sand but the total loss would not amount to the value of the patents, which should be distributed among the Blumenfeld licensees according to territory, each paying a proper proportion of the total cost, on some basis to be mutually agreed.

There was however, no logical reason why T.M.C. should buy the Auer patents. Neither was there any good reason why they should buy the stock of the D.G.A. sand. This only amounted to 4,600 tons spread over two years, and the threat of that quantity on the market was not a serious one from their point of view. The object in getting T.M.C. to do it was that they had the necessary machinery for looking after the patents and already had relations with the D.G.A. extending over a considerable period of time. The whole idea however was that T.M.C. should do this for the convenience of the Blumenfeld licensees and on the

understanding that the deal might be profitable to them, but that at any rate it would not involve them in any loss.

The contract naturally had to be ratified by the Board of T.M.C. and when the matter was put up to them they rather naturally asked what they had to gain by it, and only agreed to the arrangement on the understanding that Commercial Pigments Corporation should guarantee them against any loss. In view of what had taken place I gave them the guarantee they required.

It was thought at that time that the Auer patents would be divided up quickly and the whole matter settled. Dr. Blumenfeld and Montecatini agreed to pay their share on the basis of figures mentioned by Mr. Chase in his letter of 21st July/30, but Montecatini felt that the division of patents proposed was not equitable and that Aussig were getting too big a share. Aussig never expressed any opinion one way or the other.

From then on negotiations with the National Lead Company have been dragging along and nothing has been done in regard to these patents except that the American patents have been assigned to Commercial Pigments Corporation. Meanwhile T.M.C. has been standing the cost of Marks & Clerk's charges for dealing with the various applications and the renewal and working fees as they became due.

Of the total of 4,600 tons of sand there have actually been disposed of at the present time 2,780 tons, on which the net loss, subject to possible adjustment with S.T.R. on the last 1,000 tons shipped, amounts to £400. There still remains 1,820 tons to dispose of. The bulk of this is the Brazilian sand about which there have been some questions, but as I wrote you in my letter of July 10th I do not think that this material is unusable at all, but some allowance may

have to be made on the price which may mean a further loss, with the result that the total loss may or may not be covered by the price paid by the various Blumenfeld licensees for the Auer patents.

What is worrying me is that this question of the Auer patents is dragging on, and unless an early settlement is made the various Blumenfeld licensees will lose interest and it will be found impossible to deal with the situation.

I think you will agree however that as far as T.M.C. is concerned they only put through this deal to oblige the Blumenfeld licensees and therefore it is only logical that they should not be called upon to stand any loss in connection with the deal.

Yours very truly,

Exhibit 305

Letterhead of

TRAVANCORE MINERALS COMPANY, LTD.

WAB/F 9th December, 1931.

Krebs Pigment & Color Corporation,
256, Vanderpool Street,
Newark, N. J.
U. S. A.

Attention: Mr. Carl H. Rupprecht.

Gentlemen,

In the Spring of 1930 the Auer Company decided to stop the manufacture of titanium pigments. They had a large number of German patents and a smaller number of patents in many of the other countries. In addition they had a stock of Ilmenite. The Auer Company had entered into negotiations with the I. G. who offered them 15,000 marks for the patents, but would not take their ilmenite. We finally offered Auer 50 shillings a ton for the stock of ilmenite if they would throw in the titanium patents. The price of the ilmenite was figured on a basis of practically breaking even, if the ilmenite were shipped to Aussig or Thann. This offer was accepted by Auer and it was decided to offer the Auer patents to the various Blumenfeld licensees, the basis of payment to be determined in a way which would let us out without loss on the resale of ilmenite acquired from Auer.

The American patents were transferred directly to the Commercial Pigments Corporation. The Canadian patents were forwarded to the Commercial Pigments Corporation but no transfers have been made as it was not known

whether Dr. Blumenfeld would want them or not. The renewal fees on the issued patents have had to be paid and the prosecution of the various applications, many of which have been opposed by the I. G., has caused us to spend a considerable amount of money. The matter has been discussed a number of times with Dr. Blumenfeld, but he never has reached a decision as to whether or not he wishes these patents. Last summer in discussing this matter with Dr. Blumenfeld he was told that if he did not want the German patents that there seemed to be no reason why we should not offer them to the Titan Company, as undoubtedly they would pay something for them and we should be released from the expense of maintaining them. Dr. Blumenfeld objected to this, but on the other hand refused to make any firm commitment himself. Not knowing whether the disposition of these to the Titan Company would affect any plans that you might have in mind, we are calling this to your attention as we think that when Dr. Blumenfeld returns we should settle once for all the policy to be followed.

To date we have expended some £750., principally for the maintaining of the German patents and that in addition to this there has been a loss of some £360. on the ilmenite sold. There are still 1800 tons of sand to be sold on which there is very likely to be some further loss. The total loss to us to date is, at the present rate of exchange, about $4,000.00., which is only a very little more than the tentative price agreed upon ($3,500.00) for the American patents. The $3,500., however, was based upon receiving about $7,000.00 for all the European patents.

We have offered very liberal terms to the Blumenfeld licensees permitting them to pay for them over a term of

years. The real point at present we believe to consider is whether in the event that Dr. Blumenfeld and Dr. Mayer of Aussig do not wish these patents if it would in any way embarrass the Krebs Company if the German ones were offered to the I. G. or the Titan Company.

Yours very truly,

For TRAVANCORE MINERALS COMPANY LIMITED,

W. A. BURTON
Managing Director.

Exhibit 306

December 22, 1931.

Travancore Minerals Company, Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:

Replying to your letter of December 9th, in connection with the Auer Company German patents, it would be our idea that Dr. Blumenfeld should be pressed to either conclude negotiations for the acquisition of these patents, or definitely state that he is not interested. If we understand your letter correctly, this would be necessary before you would be entirely in the clear to negotiate the sale of these German patents elsewhere. We note Dr. Mayer's name is also mentioned, but presume he is in some way coupled with Dr. Blumenfeld in your negotiations.

As to any embarrassment which would be caused the Krebs Corporation if the German patents were offered to the I. G. or the Titan Company, we do not anticipate that there would be any such condition. However, we would respectfully ask that you communicate with us further before any approach is made to either the I. G. or the Titan Company, in the event of the Blumenfeld-Mayer interests turning these patents down. By this we mean that in order to review thoroughly the conditions as they may stand at the time, we would appreciate your advising us as soon as you have a final decision from Messrs. Blumenfeld and Mayer, thus permitting us to again consider the situation as far as it concerns the Krebs position, before the patents are offered to either the I. G. or the Titan Company.

We appreciate your bringing this to our attention, and presume action as above will be agreeable to you.

Very truly yours,

President.

CHR:s

Exhibit 307

COPY

Mr. W. D. Ticknor, 4th August, 1932.
President,
Commercial Solvents Corporation,
New York.

Dear Ticknor,

It is I think necessary to bring you up-to-date in regard to the situation which exists in regard to the arrangements made in the summer of 1930 for the acquisition by Travancore Minerals Company of the D. G. A. patents and stock of ilmenite sands.

May I remind you that this matter has been dealt with at various times. This history is more or less contained in:

Our cable 504	May 6th 1930
Your cable 5004.	May 8th 1930
Our cable 506	May 10th 1930
My letter to American Ilmenite Corporation	June 23rd 1931
Your letter	July 7th 1931
My letter to you	July 17th 1931.

I do not think you have had a copy of the letter which I gave to Travancore Minerals Company guaranteeing them against loss, dated May 6th 1930, but I enclose a copy herewith. This is the guarantee to which I referred in my letter of June 23rd and again in my letter of July 18th, 1931.

At the time of the purchase of the patents it was I think well agreed between you, Mr. Chase and myself that

it was extremely desirable that the Auer patents be acquired. At the same time the deal proposed by the Auer company had the additional advantage that it had the effect of removing their stock of ilmenite sands from the market. The quantity of ilmenite sand in question was comparatively small and the other directors or T. M. C. were not inclined to bother with them. After you left Mr. Chase and I discussed the matter thoroughly and we agreed that as the principal object of the deal was to acquire the patents to strengthen the position of the Blumenfeld licensees in their negotiations with the National Lead-I. G. group, Travancore should not be called upon to risk any loss by the transaction. At the time we figured that the patents would be taken over by the various Blumenfeld licensees almost at once at a price which would more than cover any loss which might be made on the purchase and sale of the sand. It was on the strength of this that I gave the guarantee in question.

Nobody I think at that time foresaw that there would be any difficulty in regard to the quality of the sand, so that it looked at the time as though we might make a small loss on the sand which would be more than balanced by the value we should obtain when the patents were distributed among the Blumenfeld licensees.

Now, however, I feel that we have got to clear the situation with the various interested parties. The losses have been carried on the books of Travancore as an asset representing the cost of the patents to T. M. C. From what I gather from Mr. Chase the relations with the National Lead Co. are now quite cordial and the whole reason for the acquisition of the patents has become a dead issue. We do not need the patents so far as C. P. C. are

concerned to strengthen our position and the other Blumenfeld licensees are much in the same position. Meanwhile the dispute with the D. G. A. as to our responsibility for taking over the Brazilian sands has arisen. I believe that we are on fairly safe ground there. We have recently got a sample of the Brazilian sand direct from the D. G. A. and we submitted it to Mr. Powell of Johnson & Mathey for analysis and he found at once that it differed in its behaviour from Travancore sand in that it contains more impurity, which comes out when treated with water in a colloidal form, which would interfere with the clarification. This bears out what Thann and Aussig have told us.

When Mr. Chase and I saw Mr. Ziegler in Berlin, he suggested that the only course for us now was to resort to arbitration. Mr. Powell believes that the Brazilian ilmenite can be treated in such a way as to make it useable. Besides the 1700 tons or so which we still have to take off them direct, the D. G. A. have a further tonnage of 100-1200 tons which they cannot use either. If they find that the sand can be treated at a fairly reasonable cost I do not believe Ziegler would resort to arbitration, but in return for being shown how to treat his stock of sand he would be willing to treat the sand he owes us so as to make it useable and extend the time during which we have to take it, so that we can probably dispose of it without further loss to Aussig after the D. G. A. have treated it.

Now I agree with you that if we have to go to arbitration and incur a loss on the Brazilian sand owing to a faulty agreement, the responsibility for that attaches to myself and Mr. Leo who made the agreement—in other words it lies with Travancore—but we must post our col-

Exhibit 307

leagues in the T. M. C. on the situation which we have not yet done.

C. S. C. now have no direct interest in the situation and I consider it essential that the situation should be cleared up and C. S. C. absolved from their guarantee. The deal has served its purpose and contributed to the working out of the general position at a cost which is really not large, all things considered.

I have discussed this matter very fully with Mr. Chase and he knows exactly how it is proposed to deal with the situation. He has promised to explain the whole matter to you and then see the Krebs company with a view to giving the Travancore Company a quid pro quo on the American sand purchases which will enable us to transfer the losses to date to an item under the heading "Cost of acquisition of Auer patents" which can be amortised in a short period at so many shillings per ton of ilmenite over the period necessary to absorb the loss completely. If Krebs are willing to fall in with this suggestion, as Mr. Chase thinks they undoubtedly will, I can then go to the Board of Travancore and have them give me a letter agreeing that the guarantee which I gave them has been fulfilled.

I do therefore consider it essential that this matter should be set right at the earliest possible opportunity and hope that it will be possible to clear it up in the manner suggested to the satisfaction of all parties.

Yours very truly,

W. A. BURTON (Signed)

Encl.

Exhibit 308

7th September, 1932.

Mr. W. D. Ticknor,
President,
Commercial Solvents Corporation,
NEW YORK.

Dear Ticknor,

re; Travancore Minerals Co. and the arrangement with the D. G. A.

Many thanks for your letter of August 29th. Whilst there are some things in your letter which put an entirely different light on the situation from that in which we had viewed it from here, at any rate I now understand what your wishes are in the matter and shall make every endeavor to get the situation cleared up as soon as possible.

One thing is quite certain and that is what is contained in the second paragraph, viz. that the condition of Travancore Minerals Co. to-day is almost entirely I should say due to your individual efforts directly or indirectly, and this fact will facilitate what would otherwise be a very difficult task for me.

As regards the various Blumenfeld licensees Aussig have told us that they are not interested in the patents at all. Montecatini have not replied to my last letter but I shall be surprised if they evince any great interest. As far as France is concerned Dr. Blumenfeld has definitely told us that only two of the patents are of any interest to him and then only of theoretical interest. That does not apply to the British situation at all. I take it that you are not interested in the British situation and that it does not

matter now whether we sell the British patents to Blumenfeld or the I. G. or anybody else.

However, one thing is quite certain and that is that the patents are a continuing source of expense to Travancore, that it is perfectly anomalous for Travancore to own them at all and if they cannot find a purchaser then the whole lot had better be dropped and the loss cut.

I shall take up this matter with Sir Hugo Hirst directly on my return from my holiday and I hope to be able to give you better news in regard to it.

Yours very truly,

WILLIAM A. BURTON

Exhibit 309

October 14, 1932

MEMORANDUM ON AUER PATENTS

The Auer patents were purchased by the Travancore Minerals Company Limited in May 1930. They were acquired in connection with an arrangement whereby Travancore agreed to purchase from the Deutsche Gasgluhlicht Auer Gesellschaft the latter Company's accumulated stock of Ilmenite on the understanding that Auer was definitely abandoning their program of engaging in the production of Titanium Oxide and would transfer all their Titanium patents to Travancore.

The Auer Company was the pioneer company in the manufacture of gas mantles. In connection with this they bought large quantities of Monazite, some of which they had obtained from Travancore and some from Brazil. Probably due to the fact that the suppliers of Monazite were also producers of Ilmenite they became interested in the use of Ilmenite for the manufacture of Titanium Oxide. They also had an idea that raw or not completely separated sands could be brought to Germany and profitably separated there. In fact, they purchased a considerable tonnage of mixed Ilmenite and Monazite. A large part of the sand purchased by Travancore has been separated from this mixed sand.

They had erected a small titanium oxide plant and had offered some of their product for sale. They had also exported a small quantity to the United States.

Auer had spent considerable money in trying to develop a Titanium Oxide process and at the time of their decision to abandon their work in Titanium, owned a large number

of German patents, and a smaller number of English, French, Canadian, Italian, Scandinavian and United States patents. They had pending in Germany, a large number of applications and one or two in the United States.

When the opportunity came to acquire all their patents and pending applications, and stock of sand for a reasonable price for the sand, it seemed desirable to make the deal especially as it was thought that the re-sale of the sand could be accomplished without loss, and that the patents would be acquired for nothing.

At the time the Auer Company made its offer for the sale of the sand and patents, Commercial Pigments was attempting to bring about some working agreement between the various titanium producers in Europe. It was thought that the ownership of these patents and applications, being in hands friendly to the Blumenfeld interests, would be of assistance in bringing about a working agreement between the Blumenfeld licensees and the Titan Company licensees.

Blumenfeld expressed his opinion that the German patents were of value which opinion was confirmed by the fact that both Blumenfeld and the I. G. were actively opposing some of the pending applications in Germany. I felt that some of the U. S. patents had value and this opinion has been confirmed by the fact that one of them has been cited against the National Lead in the recent negotiations.

On our suggestion Travancore accepted Auer's offer. The deal as proposed by Auer could only be handled by Travancore. There was no way to separate the price that was to be paid for the sand and the price that was to be paid for the patents. The basis of the entire deal, so far as Auer was concerned, was the sale of the sand.

Exhibit 309

It was the intention to immediately sell the patents to the various Blumenfeld licensees. A schedule of prices was prepared and a figure of $3,500 was tentatively placed on the U. S. patents. This, however, was only to be paid if the other licensees paid the amount called for in the schedule.

At first everyone was agreeable to take over their allotted patents. They appeared to remain agreeable to doing this so long as negotiations looking to general titanium arrangements in Europe were proceeding.

In the meantime the U. S. patents, in order to have transfer expense, were assigned directly to Commercial Pigments. The European ones pending settlement of purchase by the Blumenfeld licensees were assigned to Travancore.

Apparently as time went on, the European licensees were content to let Travancore hold them as they considered them in friendly hands. The I.G., however, did not suspend their opposition actions in Germany and Travancore was put to the expense of contesting the oppositions and of paying the working fees and taxes on all the patents except the U. S. patents. I am not sure of the exact amount that Travancore has expended to date, but I think it is something less than £2,000. Of course, Travancore has received some indirect benefits and still owns the patents, but has a charge for patents on their books which they would like to clear up.

The American patents were transferred to Krebs. There is, however, some payment, not to exceed $3,500, due on them. Travancore is concerned with the current expense of up-keep of the European patents and if nothing is to be done with them, wishes to abandon them.

Blumenfeld and Aussig have recently said that they do not want them and I presume that so long as Travancore

holds them they will never want them. The I.G. were approached this summer and have them under consideration. In the meantime, Aussig has bought one German patent for £50, and Blumenfeld, I understand, has offered £100 for two French and one or two English patents.

If Krebs wishes to keep any of the U.S. Auer patents as part of their patent position, they are bound to pay something to Travancore for them. If Krebs wishes to negotiate any arrangement with Blumenfeld, the control of the Auer European patents would be helpful. Probably Blumenfeld and Aussig's attitude would be changed if they felt these patents were held adversely to them.

At the best, the Titanium patent position in England is not very sound for anyone. It has been reported that the National Lead, the Imperial Smelting, and the I.C.I. have completed arrangements to engage in the manufacture of Titanium Oxide in England. We have also been advised that Blumenfeld, Barking and LaPorte are about to join forces to enlarge the Barking operations. Whether they expect to have other interests affiliated with them is not known, but at one time it was thought Goldfields Consolidated would join with them.

If these two groups do go ahead with their plans, any patents that might be considered adverse to either or both, would have a value and could probably be used to promote the interests of Krebs.

Travancore wishes (a) to stop further expense involved in the upkeep of European patents, and (b) to determine and write off any loss due to the purchase of the Auer patents.

It seems to me that at the present time, Krebs could well afford to assume whatever slight expenses are involved

in maintaining the European patents until such time as they could designate to Travancore what disposition should be made of them and pay Travancore the maximum sum of $3,500 for the American patents. This action will permit Travancore in a large measure to recoup the expenses that they have been put to in maintaining the European patents. The balance of the expense probably Travancore would be perfectly willing to write off.

Once the right of determining what should be done with the European patents is in the hands of Krebs, by reason of their assuming from now on the upkeep and taxes, they undoubtedly could trade them, either to the National Lead for the account of the I. G. or to Blumenfeld, very advantageously.

In view of the new tariff relations between England and Canada, and almost certain starting of Titanium Oxide manufacture in England, perhaps the Blumenfeld Canadian patents will now take on additional value. The question of acquiring them might well be reconsidered.

You will recall, I think, we urged a year ago that these patents be purchased if the purchase could be made upon reasonable terms. The same thing, I think, applies now to the European Auer patents. I am, therefore, strongly of the opinion that it would be wise for Krebs to make the above arrangement with Travancore; that is, pay Travancore $3,500 for the American patents and assume the working costs and taxes on the European patents until such time as their value can be determined.

MFC:BH

Exhibit 310

COPY

Blind copies to:

T. S. Grasselli, Pres.—Cleve.
Wm. Richter, Gen. Mgr.—Wilmington.
W. U. Geisinger, Treas.—Office
W. D. Ticknor, Pres., Com. Solvents Corp.—New York.

Letter No. 163. November 7, 1932.

Travancore Minerals Company, Ltd.,
Aldwych House, Aldwych,
London, W. C. 2, England.

Gentlemen:—

In response to your inquiry as to whether we were interested in the Auer patents, from the standpoint of clarifying this situation we have given the matter thorough consideration and are pleased to submit the following proposition:

Krebs Pigment & Color Corporation offers to pay Travancore Minerals Company, Ltd. the sum of $3500.00, for which Krebs will receive and assume ownership of all Auer patents now in force and patent applications outstanding, as were acquired by Travancore Minerals Company, Ltd. from Deutsche Gasgluhlicht Auer Gesellschaft under the terms of the agreement between those two Companies, dated August 7, 1930.

For the present, Travancore Minerals Company, Ltd. shall continue to carry and look after all patents other than those in the United States for the account of Krebs, with the understanding that Krebs will bear all carrying, work-

ing and legal expenses in connection therewith, effective as of this date. It is further understood that Travancore Minerals Company, Ltd. agrees to hold all of these patents and applications for account of Krebs, and to assign or otherwise dispose of them, as may be directed by Krebs at any time in the future.

If the above proposition is acceptable to Travancore Minerals Company, Ltd., we would ask that they kindly signify their acceptance by signing in the space so designated below.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
ACCEPTED
For and on behalf of
Travancore Minerals Company, Ltd.

(Sgd.) W. A. Burton.
Managing Director

Exhibit 311

Newark, New Jersey,
Nov. 29, 1932.

DR. G. LUTZ—CLEVELAND:

AUER PATENTS

After talking with you this morning I received a letter from Travancore, as per copy herewith, to which was attached copy of their letter of November 22nd to you, and which I presume is the letter you had in mind when talking with me. I have replied as per copy attached.

In looking over their letter to you I notice that several of the patents which they mention as requiring renewal or working payments, are among those which are to be abandoned, according to the joint report of Dr. Booge and yourself. No doubt your reply to them will take care of this, and I assume the $200 you mentioned this morning covers those that remain.

In connection with the matter of working, I am not familiar with the procedure of doing so by advertising, etc., however, Travancore did say that they had Thann for France and Montecatini for Italy, do some nominal working for their account, which was rather inexpensive. So long as these patents remain in Travancore's name they may be able to continue their present working operations without disturbance to us. The fact of the matter is, however, that we do not want to have any communication with Thann or Montecatini, as Krebs, for the reason that we have not entered into any arrangement with Blumenfeld as yet.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 312

Newark, New Jersey,
Dec. 9, 1932.

DR. FIN SPARRE, DIRECTOR,
DEVELOPMENT DEPT.—WILMINGTON.

Attached is copy of a letter of November 25th from Travancore Minerals Company, Ltd. attached to letter of 1/20/33 to W. M. Reisinger, which I will endeavor to explain as hereafter:

Mr. Burton was here a while ago, at which time we arranged to take over from Travancore all issued Auer patents and pending applications, for the sum of $3500. This included six (6) U.S. patents, which had not been assigned to us, and on which Commercial had never completed settlement, and four (4) Canadian patents as well. All of these had been acquired by Travancore as part of a deal whereby they agreed to relieve Auer of a quantity of Ilmenite Sand upon termination of Auer's activities as titanium oxide manufacturers.

A preliminary study of the patents has been made by Dr. Lutz and we have already arranged to abandon about half of the foreign applications. There were originally eight (8) British patents, of which four (4) have been abandoned and four (4) remain.

You will note that Sir Hugo Hurst, Chairman of the Travancore Board, wants to be assured that Travancore would have the right to operate under these patents without cost, in the event that this should ever be of interest to them in England. Off hand I see no reason to refuse this request, and consider it very doubtful that Travancore will ever be interested in the manufacture of titanium oxide in England, but I am questioning whether our granting their

request would ever in any way embarrass us with I.C.I. I should think not, for the reason that we are of course not obligated to pass these patents over to I.C.I. without negotiations, and furthermore, it would be non-exclusive, as far as Travancore is concerned.

Of the four (4) patents, there is only one that we consider to be of any real value, and even that is doubtful. It corresponds to one of our U. S. patents covering the addition of an alkaline compound to raw TiO_2 prior to calcination, to enable removal of chromium by rendering it soluble during calcination, so that it can be washed out later. Two of the other patents cover pressure hydrolysis, which we consider of no value, and the third, removal of chromium from waste sulphuric acid, which is in the same category.

I would appreciate very much getting your opinion on this, but inasmuch as we have now acquired these patents, I presume allowing Travancore to operate under them is a matter which would practically constitute a licensing arrangement, and require Finance Committee approval. I would also appreciate getting your opinion on the latter.

C. H. RUPPRECHT.

CHR:s
Encl.

Exhibit 313

Letterhead of

KREBS PIGMENT & COLOR CORPORATION.

CC—Dr. J. E. Booge—Office

Newark, New Jersey,
January 13, 1933.

DR. G. NUTZ, MANAGER,
PATENT DIVISION—CLEVLAND.

ITALIAN AUER PATENTS

Supplementing my letter of January 12th, with which I forwarded some correspondence between Travancore, London Office, and Montecatini in Italy, I had an opportunity to see Mr. Chase late yesterday and he tells me that the Montecatini process is almost identical with Commercial.

Briefly, as I recall it, they externally heat Ilmenite in their attack; allow mud to settle; and pump liquor to some sort of cooling drums to crystallize out the Ferrous Sulphate, the liquor then being evaporated in some sort of tall evaporators—I think he referred to these as the Kessner or Kessler type. The hydrolysis procedure is the same as ours, passing to a continuous dryer and calciner, wet ground in Burr stone mills, and then through the finishing stage.

Mr. Chase also feels that the process under the Auer patent #208,128, which covers complete process, runs pretty much parallel with what Montecatini is doing on this. It would probably be a good idea for you to compare this Auer patent and process thoroughly with existing Blumenfeld patents in Italy, under which he is working.

Exhibit 313

There apparently is some good reason why they would manifest any interest whatsoever in this particular Auer patent, possibly being fearful that its sale to someone else might permit a competitor to start up in Italy against them without any embarrassment, or possibly they may have some ideas that the Auer patent might be used to render some of their other patents invalid. There may be a number of other such reasons, and before we do any selling it would certainly be well to know where we stand in this respect, as the ownership of the Auer patent might be a very valuable weapon in our hands, even if we have to pay to keep it alive for a while, should we find some occasion to use it in any possible negotiations abroad in the future.

Nothing like that seems anywhere near likely to be probable, or on the horizon at the present time, but to have the patent thoroughly evaluated against his other Italian patents would at least put us in the position where we know what we are doing.

C. H. RUPPRECHT.
C.H.R.

CHR:s

Exhibit 314

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC—Dr. J. E. Booge—Office.

Newark, New Jersey,
May 16, 1933.

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

AUER PATENTS

French Patent 545097—Dec. 26, 1921
German Patent 504500—Apr. 15, 1928

Note your letter of May 11th, with copies of correspondence from Marks & Clerk under date of May 2nd, relative to the patents mentioned. I am somewhat uncertain as to just what to say in connection with working these two patents, and inasmuch as the dates are respectively July 12th and July 17th, am wondering if it would be wise to hold off for a few weeks.

The situation is just this—under our National Lead agreement we are obliged to give their foreign associates first call on patents, and in the case of the German patents will probably ask them whether they are interested, in which case a price would be set. If they are not interested, the patents will be abandoned. The agreement has not yet been signed, and we are expecting momentarily to hear that they are prepared to do so.

As to the French patent, we asked a reservation from National Lead to permit us to try to close with Blumenfeld in France and Donegani in Italy. London Office has been

written, but to-date we have heard nothing. If Blumenfeld turns down the French patents they are to be offered to National Lead's foreign associates, and if they are not interested, will be abandoned.

Unless it is imperative that the nominal working charges of slightly over £17 be paid on these two patents at once, it would be advisable to wait, even if we had to cable finally, rather than spend the money now and abandon before the due dates in July. Furthermore, I am questioning whether we have the right now to go through with this nominal working by advertising in these countries, without first having offered to National Lead's associates.

I agree with you that we would probably have to maintain them until we conclude our present deals, but in view of the dates, do you not think that we can hold off, in the hope that something final may happen within the next few weeks?

C. H. RUPPRECHT.
C.H.R.

CHR:s

Exhibit 315

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC: Dr. J. E. Booge, Newark.

Newark, N. J.,
Sept. 20, 1933.

Dr. G. Lutz, Manager,
Patent Department,
The Grasselli Chemical Co.,
Cleveland, Ohio

CONFIDENTIAL

CZECHOSLOVAKIAN PATENT 20129
DATED JANUARY 15, 1924—AUER

Note your letter of September 18th, and there is no change in the status of these Auer patents insofar as the maintenance is concerned.

The National Lead agreement was signed just two weeks ago, and since that time, the executives through whom we will function have been on vacation. I had written them on April 18th, listing the foreign Auer patents, and advised them that all were available for consideration except those in Italy and France on which disposition had been made.

I am writing to Dr. Thompson today asking whether he can promptly determine whether or not his foreign associates are interested in any of these patents. While I am afraid, judging from past experience that replies from I. G. will not be very fast coming through, that we will not have disposition in time to avoid another payment on this Czechoslovakian patent, I am inclined to risk letting this

slide in view of the fact that we will probably have disposition so soon after November 15th. Does this mean we have until November 15th to make payment? If so, I would suggest that we hold it off in the hope that something may have happened on disposition before then, and we can, of course, if necessary, cable authorization to pay. My idea is to hold this off as long as possible, and inasmuch as I doubt very much that I. G. will be at all interested in paying for these patents or even taking them over on the basis of maintenance charges, I question whether we ought to go to any additional expense. How do you feel about that?

C. H. RUPPRECHT.
C.H.R.

CHR:MW

Exhibit 316

COPY

TITAN COMPANY, INC.

Paris, October 6, 1933

DR. G. W. THOMPSON
National Lead Company
111 Broadway,
New York City, U.S.A.

Dear Dr. Thompson:

Many thanks for your letter of September 25th with enclosed copy of letter from Mr. Rupprecht.

We dealt with those patents from the Auer Company when Mr. Beschorman was here.

Titangesellschaft informed us that they had no interest in the same. (The Travancore Minerals had offered them in 1932. At that time Titangesellschaft, as well as Mr. Ravnestad, were of the opinion that they were not worth buying.)

Titan Co. Inc. has also no interest in the patents.

Considering that the British Titan Product Company's organization, early May, was entirely new and unfamiliar with the Titanium industry (Mr. Stopford, the works manager, started in the company on May 1st), the question was not submitted to them.

At the present time I do not feel entitled to answer for the B.T.P. without having referred the matter to their organization. This will be done immediately by Mr. Ravnestad and I shall soonest inform you correspondingly, in case there still is a possibility of acquiring the patents and B.T.P., against expectation, should show an interest.

Exhibit 316

Thanking you very much for your trouble in these matters, I am, with my best regards,

Yours very truly,

(signed) G. JEBSEN

P.S. A Patent Committee, consisting of Mr. Ravnestad and Mr. Stopford, has been nominated by the B.T.P. Board, to deal with B.T.P.'s patent matters submitting more important questions to the Board.

Exhibit 317

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

November 8, 1933

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool St.,
Newark, New Jersey

Dear Mr. Rupprecht:

Replying to your letter of November 2nd:

I enclose copy of letter received from Dr. Jebsen dated October 6th. I should have sent this to you sooner. You will see from his letter that the I.G. are not interested in the Auer patents.

Your letter inquires only about the I.G.'s interest. I have been assuming that the British people would also be expected to pass on the Auer British patents if there are any.

If I hear further from Dr. Jebsen, I shall be glad to communicate with you.

Yours very truly,

(Sgnd). G. W. THOMPSON

Enc.

Exhibit 318

Letterhead of
KREBS PIGMENT & COLOR CORPORATION

CC—Dr. J. E. Booge—Office.

Newark, New Jersey,
November 15, 1933.

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

Attached you will find letter from Dr. Thompson of National Lead Company, acknowledging my letter of November 2nd, to the effect that I.G. are not interested in any of the Auer patents we had submitted to him.

In my letter of April 18th, copy attached, I listed the Auer patents that we were keeping active, and included in this list everything as of my record at that time. What this now amounts to is that the patents in Austria, Germany, Switzerland, Czecho-Slovakia, Poland and Norway can be immediately abandoned.

The Italian and French patents, as you know, have been offered to Montecatini and Blumenfeld respectively, and are still in a state of negotiations, being handled by the London Office. There is nothing to do on these two groups except to wait until something happens, and we are regularly following up the London Office.

The Great Britain patents must remain in force until the British associate of I.G. and National Lead Company passes upon them. Dr. Jebsen, in his letter to Dr. Thompson, indicates that he doubts the British people will be interested, but until we find out we will just have to hold on.

Consequently, I think my letter of April 18th lists all patents now effective; but you will no doubt check this promptly, and proceed with abandonment of all except those in Italy, France and Great Britain.

I am glad that this much is solved, even at this late date, and the costs have to go to experience and "profit and loss". It was a bad inheritance.

CHR:s

C. H. RUPPRECHT.

Exhibit 319

Blind copies to:

Dr. G. Lutz—Cleve.
Dr. J. E. Booge—Office

November 15, 1933.

CONFIDENTIAL

Dr. G. W. Thompson, Vice Pres.,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:

I have your letter of November 8th, enclosing copy of letter from Dr. Jebsen advising that I. G. are not interested in any of the Auer patents submitted to you in our letter of April 18, 1933.

I further note that the British patents are being submitted to the British Titan Product Company for their consideration, and this is entirely in order. I presume, therefore, that we will hear further from you relative to the British patents.

In view of I. G. having no interest in these Central Europe patents, we will probably proceed at once with abandonment, as it would seem useless under the circumstances to pay the renewal and working costs for no avail.

I appreciate very much your clearing this situation with I. G., which enables us to decide upon final disposition.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s

1235

Exhibit 320

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

December 5, 1933

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street,
Newark, New Jersey

Dear Mr. Rupprecht:

I just heard from Dr. Jebsen that our British associates are not interested in acquiring your Auer patents. I think therefore you can consider that none of our European associates are in any way interested in these patents.

Yours very truly,

(sgnd) G. W. THOMPSON

Exhibit 321

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CC—H. H. Ewing, Mgr.—London Office.
Foreign Relations Dept.—Wil.

Newark, New Jersey,
December 6, 1933.

CONFIDENTIAL

DR. G. LUTZ, MANAGER,
PATENT DEPT.—CLEVELAND.

I have just been informed by National Lead Company that their British associates would not be interested in acquiring our Auer patents. It is therefore in order to proceed with abandonment of the four patents in Great Britain, which were listed in my letter of April 18th, of which you have copy, under the following numbers:

214483
234518
309597
309598

Inasmuch as I. C. I. is associated with the National Lead British organization, it of course means that they would have no interest in the patents for themselves.

We are, therefore, justified in proceeding promptly with abandonment, and just as soon as we have so instructed Marks & Clerk, I would ask that you inform me so that I can write Travancore. You recall Travancore requested that they be considered as entitled to a non-exclusive license on these British patents as long as we kept them in effect. However, just as soon as we abandon them, that is all done away with, and we should so inform them.

This, therefore, leaves us with simply the French and Italian patents to close out.

C. H. RUPPRECHT.

CHR

Exhibit 322

February 11, 1933

Memorandum for Technical Committee:

Leuchs German patent 533,326.

The Technical Committee at its meeting February 8, 1933 decided that it would not be advisable to acquire an interest in U. S. patent 1,853,626, but upon final review, it appeared that the principal reason why the Mecklenburg and Blumenfeld patents 1,758,528 and 1,851,487, respectively, were granted may have been because the Leuchs German patent, though applied for at a much earlier date, was not published until September 11, 1931, and therefore may have an important bearing on the validity of the Mecklenburg and Blumenfeld patents referred to.

The matter was discussed briefly with Mr. Peck who assures me that as far as affecting the validity of the Blumenfeld and Mecklenburg patents, the filing date (convention date) Nov. 27, 1925, would hold. Mr. Peck also suggested the possibility that if the Leuchs U. S. patent could be shown to have been limited by unsound references, that re-issue might possibly be obtained.

As this Leuchs patent seems to have a definite disclosure which would anticipate the Blumenfeld and Mecklenburg features of separately preparing accelerators of titanium precipitation, it is recommended that the Leuchs patent and related patents be submitted to Mr. Peck for study and opinion.

L. E. BARTON

cc: GWT
WFW
ASM

Exhibit 323

MEMORANDUM TO TECHNICAL COMMITTEE
AUGUST 12, 1933

Leuchs U. S. Patent 1,835,636 April 12, 1932
Preparation of Basic Titanium Solutions and Precipitation of Titanium Compounds

Our investigation of this patent and process has not resulted in the production of satisfactory products, and it is doubted if the patent is valid in view of prior patent literature.

Notwithstanding these adverse features, the question of purchasing this patent, which has been offered to us, should receive careful consideration as to whether, in view of the prior art and our own patent applications, ownership would strengthen the general patent structure.

In consultation with Mr. Peck relative to this case, he suggested that this Leuchs Patent might possibly be reopened and broader claims inserted, if it could be demonstrated that the patent has been limited by unsound references. Therefore, in case we decide to purchase this patent, it might be desirable to have the file wrapper carefully reviewed by Mr. Peck.

In order to facilitate consideration of this matter, the following abstract of the file is given:

Review:

This patent was brought to our attention by the Titan Company in their letter of May 31, 1932, with which they enclosed copy of the corresponding German Patent No. 533,326. In that letter they refer to prior patents which they believe would be infringed by working Leuchs' process. They also inform us that the inventor would be willing to

Exhibit 323

sell his right in the United States patent. Under date of July 7, 1932, they sent us file wrapper in the United States case 1,835,626, April 12, 1932.

After investigation of the process by Dr. Plechner under Project No. 95, we wrote to the Titan Company under date of February 25, 1933, reporting the unsatisfactory results but expressing our wish to further investigate the process in view of the competitive patent situation relating to the precipitation of titanium pigments (Mecklenburg and Blumenfeld).

In a letter dated July 25, 1933, the Titan Company requests our further consideration and decision.

Nature of Leuchs Process and Results of Investigation:

Leuchs Patent refers to the precipitation of titanium hydroxide by a "suitable base, preferably magnesium oxide." (Lines 38 and 39, page 1.) The titanium hydroxide is separated by filtration and redissolved in another part of the titanium solution. (See lines 48 to 53, page 1.) The resulting charge is then heated to near boiling point to precipitate about 90% of the titanium. The accelerating effect of the added titanium hydroxide is apparently recognized by Leuchs. (See lines 98 to 100, page 1, and lines 1 to 4, page 2.)

Report by Dr. Plechner, No. 1—Project 95, shows that the process though tried in various applications did not yield pigments of good quality, but it was observed that the precipitation by hydrolysis was greatly accelerated.

Referring to more recent work which is covered by Report No. 2—Project 95, Dr. Plechner states:

"As is pointed out in Report No. 2 of this project, the type of precipitation obtained by the method of Leuchs is

similar to that obtained by the Blumenfeld, Dahlstrom, or Leverkusen methods. However, whereas in the Leverkusen process Na_2CO_3 equal to but 1.25% of the TiO_2 in solution is required to effect acceleration of the precipitation, in the Leuchs method considerably more than 5% of the TiO_2 must be precipitated as orthotitanic acid and redissolved in the remainder of the Ilmenite solution in order to obtain accelerated precipitation."

Mr. Turner, in his letter of August 9, 1932, states:

"Summarizing all of the information which we now possess and including Dr. Plechner's report No. 2 on Project 95, I may say that there is no essential difference in the progress of reactions between the Leverkusen and Leuchs processes. However, we did not succeed in obtaining satisfactory products by means of Leuchs' process as described in his patent, although we introduced certain modifications. Of course there is a possibility that if we continue our study of this process we will eventually obtain satisfactory products. Nevertheless, even in such case, indications are that consumptions of reagents will be considerably larger than in the Leverkusen process and that the process will be much more difficult to carry out."

Patent Situation:

Mr. Turner in his letter to me January 24, 1933 included a translation of a memorandum from A. J. Ravenstad referring to Leuchs' Patent as follows:

"This patent covers a process for the preparation of pure titanic acid through the hydrolytic precipitation of a solution which is obtained either by dissolving orthotitanic acid in sulphuric acid or by dissolving Ilmenite.

Exhibit 323

"The orthotitanic acid is obtained from titanium solutions by precipitation with a base, for instance, milk of magnesia. In a letter of Titan Ges., of December 23, 1931, the question is asked whether the Titan Ges. should purchase this patent.

"We possess the information that the I.G. Patent Department protested on May 6, 1929 against the patent application L. 64,576, on which this patent is based. This protest was based substantially on our German Patent 310,502. On the basis of decision of November 25, 1929, a patent was granted in spite of our protest.

"In our letter of December 17, 1929, we wrote the I.G. Patent Department that we do not consider this decision correct and that we recommend to enter a complaint. Since our letter of December 17, 1929, we have not heard further in this matter, either from the I.G. or from the Titan Ges.

"The patent was published on September 11, 1931. As we see it, it is impossible to follow the German Patent 533,326 without interfering with our German Patent 310,502, since the fundamental characteristic of Leuchs' patent is hydrolysis of heated basic solutions (under "basic" we understand: less sulphuric acid than corresponds to the formula $Ti(SO_4)_2$). These characteristics are protected by our German Patent 310,502. It is well known to any chemist that orthotitanic acid can be precipitated by means of milk of magnesia from titanium sulphate solutions, and that this titanic acid is soluble in sulphuric acid.

"We cannot see how Leuchs' Patent can be of any value to the Titan Ges. In the final decision of this question it is important for us to become acquainted with the correspondence with the Complaint Department as well as with the reasons for the latter's decision."

Exhibit 323

For discussion of Leuchs' process in comparison with Mecklenburg, and Blumenfeld, see memorandum to Technical Committee February 15, 1933.

L. E. Barton.

LEB:MCY

CC GWT
WFW
ASM

Exhibit 324

Rm. 1814

August 17, 1933

Ste Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: *U. S. Patent No. 1,853,626—Dr. Karl Leuchs*

Gentlemen:

Your letter of July 25, 1933 in the above was considered by the Technical Committee at its meeting today.

Since our letter to you February 25, 1933, to which your attention is again called, we have further investigated the Leuchs' process, and while it appears that colloidal titanium oxide is not present when orthotitanic acid up to 50% of the total titaniuin oxide is dissolved in Ilmenite solution and the active acid made up to 18% sulphuric acid, colloidal titanium oxide does appear when such solutions are boiled.

While we consider the Leuchs' process unimportant from a technical and commercial standpoint, and the validity of the patent is questionable in view of the prior art, the fact remains that in the operation of the process precipitation is accelerated and a good yield obtained and, according to our investigations, the course of reactions as indicated by phase diagrams is similar to that of Blumenfeld and, therefore, Leuchs' Patent may be an anticipation of the Blumenfeld and Mecklenburg Patents.

All considered, we are of the opinion that the Leuchs' Patent should be purchased if it can be obtained at a very nominal figure, and shall be glad if you will negotiate and

advise us as to the cost. We shall then be able to reach a definite decision in the matter.

Very truly yours,

TITANIUM PIGMENT CO., INC.

W. F. MEREDITH
President.

LEB:MCY

CC GWT
WFW
PCP
LEB

Exhibit 325

August 31st, 1933.

Mr. Z. Phelps, Vice President,
Krebs Pigment & Color Corporation,
256 Vanderpool St.
Newark, N. J.

Dear Mr. Phelps:

This is to acknowledge and thank you for your letter of August 30th, 1933, with comments relative to Leuchs U. S. Patent 1,853,626.

Notwithstanding that the claims are very limited, and that our review of the patent literature indicates that there is a little question of the validity of Leuchs' patent, we have taken the matter up with our associates the Titan Company, to get the inventors idea of price.

When we hear from them we shall advise you further.

Yours very truly,

TITANIUM PIGMENT CO. INC.
L. E. BARTON

LEB/MC

CC—Mr. Beschorman
Dr. Thompson.

Exhibit 326

Letterhead of

NATIONAL LEAD COMPANY

New York, November 23, 1933.

Mr. William F. Meredith, President
Titanium Pigment Company, Inc.

Dear Sir:

At the regular meeting of the Board of Directors held today the following resolution was adopted.

RESOLVED, that the proposed expenditure of the sum of $1250. by Titanium Pigment Company, Inc. toward the purchase of Leuchs United States Patent No. 1853626, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

Yours respectfully,

M. DOUGLAS COLE
Secretary.

Exhibit 326

BOOK D—page 444

Minutes of Regular Meeting of the Board of Directors of National Lead Company held at No. 111 Broadway, New York City, on Thursday, November 23, 1933, at 11:15 o'clock A. M.

Present: Messrs. E. F. Beale, L. T. Beale, Beschorman, Carter, Caselton, Cornish, Croft, Meredith, Rockwell, Sidford, Taylor, Thompson and Warshow.

RESOLVED, that the proposed expenditure of the sum of $2000. by the Titanium Pigment Company, Inc., for the purchase, jointly with Krebs Pigment and Color Company for a total price of $4000., of a certain group of patents and patent applications relating to titanium pigments owned by Dr. F. v. Bichowsky, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

RESOLVED, that the proposed expenditure of the sum of $1250., by Titanium Pigment Company, Inc. for the purchase, jointly with Krebs Pigment and Color Company for a total price of $2500., of Leuchs United States Patent No. 1853626, in conformity with letter of Mr. William F. Meredith, President, dated November 20, 1933, be and it hereby is approved.

Exhibit 327

Letterhead of

TITAN COMPANY, INC.

ARd/GK

9th. February 1934.

Titanium Pigment Co. Inc.,
111 Broadway,
New York

Dear Sirs,

Leuchs U. S. Pat. No. 1.853.626

We refer to your letter of November 28th, 1933 and beg to inform you that Dr. Leuchs is willing to assign the above patent for $2500.—

For your information, we enclose copy of a letter received in this connection from a Mr. F. Reinhold, acting on behalf of Dr. Leuchs.

We should be obliged to know in which manner you should like to have this assignment carried out, probably it will be the best way to have such documents prepared by your Patent Attorneys or Messrs. Dorsey & Cole.

In the meantime, we will inform Dr. Leuchs that we have written you in this case and that our representative in Berlin is Dr. G. Winterfeld.

Looking forward to your further information,
We are,

Yours very truly,

Per TITAN Co. INC.
ANDREAS RAVNESTAD

Exhibit 327

COPY

Berlin.
January 18, 1934.

Dr. G. Jebsen,
26 rue de la Pepiniere,
Paris.

Re: U. S. Patent No. 1,853,626 (Leuchs).

The "Titangesellschaft m.b.H., Leverkusen" has advised Dr. Leuchs, the owner of the above patent, that your American business associates wish to purchase this patent and that they are ready to pay the amount of $2500. The firm told Dr. Leuchs to communicate with you in this matter.

Dr. Leuchs has given me power of attorney to take care of the case. He accepts the offer of your business associates. In exchange for paying the purchase sum stated above he will turn over his American patent document and also a transfer declaration certified by the consul's office.

Will you please let me know the exact name and residence of the purchaser of the patent in order that I may make out a transfer document? Furthermor , kindly advise me in which way the payment of the sum and the handing over of the document should be carried out. It would seem to be the most convenient procedure, if you or the Titangesellschaft commission a representative residing in Berlin to take care of the matter.

Very truly yours,

F. REINHOLD.

Translated by
H. Espenschied
February 23, 1934

Exhibit 328

Ste Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: U. S. Patent No. 1,853,626—Dr. Karl Leuchs

Gentlemen:

We have received your February 9th letter in the above matter enclosing copy of Mr. E. Reinhold's January 18th letter who is acting as Dr. Leuchs representative in regard to the Assignment of the above U. S. Letters Patent to ourselves.

We enclose draft Assignment (with copy for your files) which we believe will be found in proper form. Dr. Leuchs should execute same opposite the seal and acknowledge the execution of this document before the U. S. Consul at Berlin, all as indicated in pencil.

We also enclose remittance for $2500 to the order of Dr. Leuchs, and we understand that your Berlin representative, Dr. G. Winterfeld, will act as our agent in this transaction. Then kindly return the executed Assignment to us for recording in the United States Patent Office.

Very truly yours,

TITANIUM PIGMENT COMPANY INC.

President.

Exhibit 329

COPY

Leuchs Patent

Rm. 1814

March 13, 1934

Ste. Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Re: U. S. Patent No. 1,853,626—Leuchs

Gentlemen:

By registered mail we sent you under date of March 9, 1934 our letter regarding Leuchs Patent No. 1,853,626, enclosing our remittance for purchase of same, and papers which we wish to have signed in connection with our efforts to re-open the case for the inclusion of broader claims.

In view of the very limited time within which we must lodge the new application papers in the United States Patent Office, we shall be greatly obliged if you will cable us the name of the steamship on which the signed papers will be mailed. This will enable Mr. Peck, our Patent Attorney, to make arrangements with his Washington representative to assure prompt action when the steamer arrives.

Very truly yours,

TITANIUM PIGMENT CO., INC.

W. F. MEREDITH
President

LEB:MCY

cc: GWT
WFW
PCP
LEB

Exhibit 330

COPY

Leuchs Patent

TITAN COMPANY, INC.
7 West 10th Street
Wilmington Delaware U. S. A.

Paris, 26th. March 1934.

REGISTERED

ARd/GK.

Titanium Pigment Co. Inc.,
111 Broadway,
New York N.Y. U.S.A.

Per Steamship "Berengaria"

Dear Sirs:

Re: U. S. Patent No. 1,853,626—Dr. Karl Leuchs

Referring to your letters of 9th. and 13th. March we enclose herewith the following documents:

a) Letters Patent Deed U. S. Patent No. 1.853.626—Karl Leuchs

b) Original Assignment of U. S. Patent No. 1.853.626 signed by Dr. Karl Leuchs on March 22nd. and the signature being certified by the U. S. Consul in Berlin on the same date.

c) Original Re-issue Application Papers comprising Petition, Specification, Claims, and Oath signed by Dr. Karl Leuchs on March 22nd. and certified by the U. S. Consul in Berlin on the same date.

d) Re-issue Assignment signed by Dr. Karl Leuchs on March 22nd. and certified by the U. S. Consul in Berlin on the same date.

e) Further, we enclose copy of a letter of March 22nd. from Dr. G. Winterfeld to Dr. Karl Leuchs confirming that the transfer is limited to the Patent Rights in U. S. A.

The reason for this letter (e) is that Dr. Karl Leuchs did not feel sure that the re-issue assignment, in view of its wording was limited to the patent rights in U. S. A. We hope you are in agreement with this letter.

You will note that the re-issue assignment has been certified by the U. S. Consul instead of only being witnessed. Instruction given to this effect has apparently been overlooked in Berlin, but we hope this will be of no importance.

We have done our utmost to have the matter settled and the papers sent to you as soon as possible. We received the papers enclosed from Berlin this morning and the next rapid steamer for U. S. A. is the "Berengaria" leaving on the 28th inst.

We are, accordingly, cabling you as follows:

"MAILING PAPERS LEUCHS PATENT BERENGARIA".

and hope the papers will reach you safely in due time.

Yours very truly,

Per TITAN CO. INC.
s/ Andreas Ravnestad

Exhibit 331

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

CONFIDENTIAL July 6, 1934.

W. F. Meredith, President,
The Titanium Pigment Company, Inc.,
111 Broadway,
New York City, New York.

Dear Mr. Meredith:

We hereby offer to purchase from you, for the sum of $1250.00, the entire right, title and interest in and to U. S. Letters Patent No. 1,853,626, issued in the name of Karl Leuchs, covering process of manufacturing titanium oxide suitable for use as a pigment.

We further propose that, in the event of your acceptance of this offer, the license which you will possess under said patent by reason of our contract of January 1, 1933 shall not be subject to the royalty provisions of the latter agreement.

If this offer is acceptable to your company, kindly so indicate by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Accepted, July , 1934

THE TITANIUM PIGMENT COMPANY, INC.
By
President.

Exhibit 332

July 9, 1934

CONFIDENTIAL

Mr. C. H. Rupprecht, President
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Mr. Rupprecht:

I am enclosing herewith copy of your letter of July 6th relative to the Leuchs patent which has been signed as accepted by Mr. Meredith.

The next step I presume is for you to make payment of the $1,250.00 and then to have an assignment agreement drawn up. Perhaps you had better do this and send it to me. I will have Mr. Meredith sign it and turn it over to Mr. Peck or return it to you for filing. I shall then direct Mr. Peck to turn over to you all the papers in the case, particularly those relating to re-issue.

Yours very truly,

G. F. THOMPSON

Enc.

Exhibit 333

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

July 20, 1934.

CONFIDENTIAL

Dr. G. W. Thompson, Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Dr. Thompson:—

This will acknowledge your letter of July 9th, enclosing executed copy of our letter of July 6th accepting our offer with respect to the purchase of the entire right, title and interest in and to U. S. Letters Patent No. 1,853,626, issued in the name of Karl Leuchs, and herewith am enclosing check for $1250.00 to cover.

There is also attached assignment agreement in duplicate, the original of which I believe should be returned to us, with all papers in the case.

Very truly yours,

C. H. RUPPRECHT
President.

CHR:s
Encls.

Exhibit 334

August 15th, 1934.

CONFIDENTIAL.

Mr. Z. Phelps, Vice President,
Krebs Pigment & Color Corp.
256 Vanderpool St.
Newark, N. J.

Dear Mr. Phelps:—

Answering your letter of August 9th, would say that it was received during my absence from town.

As you requested I am enclosing original assignment from Karl Leuchs to the Titanium Pigment Company. This assignment has already been recorded in the United States Patent Office, April 6th, 1934.

Yours very truly,

TITANIUM PIGMENT CO. INC.

President

WFM/MC
Enc.

Exhibit 335

Rm. 1814

Mr. F. v. Bichowsky, Consulting Chemist
P. O. Box 116
Glendale, California December 6, 1933.

Dear Sir:

Your letter of October 7, 1933 made it necessary to reconsider the entire matter of patents and pending applications held by you personally, and also by the Titania Corporation. After consideration by our Patent, Research, and Development Departments, I am advised that the group of patents owned by you personally, including pending applications, as far as can be judged from meager description, are not likely to prove important in any of our operations, and the price you name, $37,500.00, is so far out of line with our ideas that it seems almost useless to proceed in the matter.

Notwithstanding those conditions, I have been authorized to make you an offer of $4,000.00 for your personally-owned patents, Nos. 1,900,203, 1,902,204, and 1,915,393, and any which may result from patent applications now pending, under the conditions that we shall first have an opportunity to inspect the file wrappers in the pending applications, Nos. 590,639, 600,075, and 603,685, and also have your assurance that there are no applications pending other than those stated in your letter of October 7, 1933.

I am advised that upon further consideration it does not appear that any of the patents of the Titania Corporation will be of any interest to us, and we are therefore not now considering their purchase.

Very truly yours,

TITANIUM PIGMENT CO., INC.

LEB:MCY
cc: WCB
LEB

W. F. MEREDITH
President

Exhibit 336

Letterhead of
TITANIUM PIGMENT CO., INC.
Rm. 1814

January 23, 1934.

Mr. W. F. Meredith, President
Titanium Pigment Company, Inc.
Building

Re: *Bichowsky Patents*

Dear Mr. Meredith:

Mr. F. von Bichowsky's letter to you December 30, 1933, was considered by the Technical Committee at its meeting January 17, 1934.

It is noted that Mr. Bichowsky does not care to consider selling his personally-owned patents for the sum of $4,000.00, which we suggested, but would consider a royalty agreement, should we care to make such a proposal, and would, after a small payment of "earnest money", permit us to inspect the file wrappers of two applications now in the course of prosecution.

The Technical Committee is of the opinion that no additional offer should be made at this time, though should Bichowsky's pending applications result in interesting patents, the matter might be taken up again later. However, it is desired to give the matter a little further consideration, after which the Committee will advise you more definitely.

We have sent for copies of U. S. Patent 1,943,497 January 16, 1934, and also the file wrapper.

Very truly yours,

L. E. BARTON

LEB:MCY
L. E. Barton

cc: GWT, WFW, ASM

Exhibit 337

Titanium Comm.

October 10, 1934.

Dr. J. E. Booge, Research Director—White Pigments
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Dr. Booge:

I am pleased to send you herewith, two lists as follows:

1) List of the United States Patents owned or controlled by the Titanium Pigment Company.

This list is complete as of October 1, 1934.

2) List of the British, French and German Patents owned by the Titanium Pigment Company or its Affiliates.

This list is as complete as I am able to make it. I do not believe there are any important omissions.

The column marked T. Case. No. will have no significance to you, except in the event you desire to know what United States Patents may be equivalent to the respective foreign patents. If you desire such information, I will be glad to prepare a list of the United States Patents and the equivalent T. Case number, so that by comparison of the T. Case number you will be able to ascertain the equivalent patents.

I will be happy to receive similar lists of the Krebs Patents when you have had opportunity of completing same.

Very truly yours,

CHARLES F. KAEGEBEHN

CFK:MCY
Encls.
cc: GWT
WFW
JLT

Exhibit 338

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

October 17, 1934.

CONFIDENTIAL

Mr. C. F. Kaegebehn,
Titanium Pigment Company,
105 York Street,
Brooklyn, N. Y.

Dear Mr. Kaegebehn:

This will acknowledge with thanks your letter of October 10th, enclosing list of U. S. Patents owned by the Titanium Pigment Company, and of British, French and German patents owned by the Titanium Pigment Company or its affiliates. I am attaching herewith two lists of the U.S. Titanium Patents owned by Krebs Pigment & Color Corporation. The second list groups them as to subject matter and may be of some interest to you. I find, however, that we do not have available any lists of foreign patents controlled by our associates.

I believe that it would also be of some interest for us to cross-check our complete list of U.S. Patents relating to titanium. I am consequently going to obtain another copy of our list, which is, to the best of our knowledge, complete and suggest that it might be of interest for you to check it against your list. If you would prefer to send us a copy of your complete U.S. list and have us check it against ours, we would of course be glad to do so. If I do

not hear from you to the contrary I will, within the next week or 10 days, send you a copy of our complete list.

If you desire anything else along these lines please do not hesitate to call on me.

Very truly yours,

KREBS PIGMENT & COLOR CORPORATION

J. E. BOOGE
JAMES E. BOOGE,
RESEARCH DIRECTOR—WHITE PIGMENTS.

JEB:MP

Exhibit 339

Gardner License Arrangement

October 18th, 1937

Mr. W. C. Beuchorman—Executive-Vice-President
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Beschorman:

Mr. Robertson has advised me that he received from Dr. Gardner this morning, a letter in which Dr. Gardner acknowledges that we have a non-exclusive license in all his U. S. patents now in force, as well as in pending applications. The only exception noted by Dr. Gardner is with respect to artificial silk developments, wherein the Tubize Chatillon Corporation has an exclusive license.

Dr. Gardner's statement says that the Titanium Pigment Corporation not the National Lead Company has a non-exclusive license, but this is probably not a serious discrepancy because the intention of Dr. Gardner is quite clear.

The fact that Dr. Gardner acknowledges our rights to extend to patents not limited to titanium developments, would, in my judgment, give us rights in his lead phthalate developments. This last letter from Dr. Gardner thus goes beyond his original letter of February 19th, wherein he speaks of our rights as pertaining to titanium pigment developments.

In this connection, I would like to bring to your attention the fact that the Krebs Pigments Division of E. I. DuPont DeNemours & Co. appears to be interested in the titanium phthalate developments. From the agreement between ourselves and DuPont and our arrangement with

Dr. Gardner, it does not appear that we are in a position to grant a sub-license to DuPont. Consequently, if DuPont wish to go into the titanium phthalate developments in a commercial way, they will probably have to deal with Dr. Gardner, and our part as set forth in the DuPont Agreement, will be to use our best efforts to obtain for DuPont a non-exclusive license on the most favorable terms possible.

I call this to your attention in the event that Mr. Ruprecht raises the question.

Yours very truly,

CFK:le

c.c. Mr. C. F. Garesché
Mr. D. W. Robertson

Exhibit 340

cc: Dr. J. E. Booge

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

KREBS PIGMENTS DEPARTMENT

Newport, Delaware
October 30, 1939

MR. J. P. HANCOCK
ROOM #1094
DU PONT BUILDING

PATENTS 2,099,019 and 2,127,664

The above U. S. Patents were assigned to Titanium Alloy Company which is a subsidiary of National Lead Company. The first of these, #2,099,019, Kinzie—11/16/37 relates to a process for improving a pigment, e.g., TiO_2 by precipitating zirconium oxide thereon. The second, #2,127,664, covers a process for preparing a synthetic TiO_2 material which Kinzie *et al* Aug. 23/38 is stated as useful for pigment purposes.

Due to the nature of these processes and their bearing on titanium pigments, it is my belief that we should be licensed to operate by virtue of the agreement with National Lead Company. To my knowledge we have no statement from National Lead Company that we have the right to operate these processes and I am suggesting that we consider the proprjety of calling this to the parent company's (N.L.Co.) attention.

We are not operating such a process and have no plans to infringe the claims of these patents, so the matter is not an urgent one.

(Signed) R. M. McKinney
R. M. McKINNEY
Research Division Head

RMMcK/mtw

Exhibit 341

I. C. I. Patents—relating to the treatment of titanium pigments to prevent fading of artificial silk dyes.

June 1st, 1937

Mr. W. C. Beschorman—Executive Vice President
Mr. C. F. Kaegebohn—Patent Department

Dear Mr. Beschorman:—

A situation is arising which, I believe, should be brought to your attention.

The I. C. I. applied for certain British patents for:

a) the treatment of titanium dioxide with various salts, particularly chromium salts, to render the titanium dioxide inactive against the dyes with which artificial silks are tinted;

b) the use of this treated titanium dioxide pigment in artificial silk.

Separate British patents were taken out to cover the methods just mentioned in a) and b). It was therefore possible in Great Britain for I. C. I. to turn over to British Titan Products Company rights in the patent relating to the treatment of titanium pigments.

However, I. C. I., under its arrangement with DuPont, turned over the United States rights in the processes of both a) and b) above to DuPont, and DuPont filed in the United States a single application covering both the treatment of titanium dioxide and the preparation of artificial silk in which the treated TiO_2 is employed.

The situation is therefore this:

I. C. I. developed a treatment of titanium dioxide, rights to which should have been turned over to British Titan

Exhibit 341

Products, so that they, through Titan Company, Inc., could give us the United States rights in the process. This process, however, has been made part of a patent application now pending in the U. S. Patent Office in the name of DuPont.

The I. C. I. have suggested that we await the grant of U. S. patents before settling the question of our rights. I have discussed this matter with Mr. Turner, and we are in agreement that to await the grant of U. S. patents before establishing our position is not in the best interests of the National Lead Company, nor will it help in any way to clarify the situation which today exists in the United States with respect to DuPont's patents covering compositions in which titanium dioxide is used; which situation was made the subject of my memorandum to you of May 27.

In the opinion of Mr. Turner and myself, steps should be taken, at once, to acquaint DuPont with the fact that we have rights in their pending application, at least to the extent of the process of treating titanium dioxide. It appeared to us to be better to attempt to reach an understanding with DuPont before the patent issues, rather than to wait until after it issues. This situation might be used as a wedge to open up the whole question of the DuPont use patents covering titanium dioxide.

Yours very truly,

CFK:le

c.c. Dr. G. Jebsen
Dr. G. W. Thompson
Mr. J. L. Turner
Mr. C. F. Garesché

Exhibit 342

COPY

British Titan Products Co. Ltd.,
Billingham.

CJS/SL/75743

27. August 1937.

Imperial Chemical Industries Ltd.,
Commercial Research Department,
Millbank,
LONDON, S.W. I.

For the attention of Mr. E. D. Catton.

Dear Sir,

I. C. I. Patent Cases 2455 etc.

With reference to discussion between Mr. Catton and the undersigned on the 24th instant and to your memorandum on the stalilisation of Titanium Oxide used for Delustring Rayon, dated 20th August 1937, which Mr. Catton handed to the undersigned, we have discussed the matter with Mr. Beschorman, the Executive Vice President of the National Lead Company of America, who is in London and he confirms that the National Lead Company are prepared to deal with the U.S. Patent under this case, when granted, if it is assigned to the National Lead Company as though the whole of the patent came completely within the scope of the cross-licensing arrangement between National Lead Company and DuPont de Nemours, that is that they would grant DuPont full rights under the patent.

We understand that with this agreement, you consider it likely that you would agree to assign the American

Exhibit 342

Patent under these patent cases to the National Lead Company when granted. We should be pleased to receive a formal communication from you making this offer.

In the memorandum you refer to the assignment of the patent to B. T. P. This can be done if you prefer this method, although it may be simpler to assign it direct to the National Lead Company.

In regard to points 3 and 4 of the memorandum, we are willing to refund any patent expenses incurred by you in the prosecution of the patent and we agree that no action in regard to the assignment of the patent should be taken until the U. S. Patent has been granted, although as stated previously, we should like to have a letter confirming your agreement to assign this patent to B. T. P. or National Lead Company at your early convenience.

Yours truly,

for BRITISH TITAN PRODUCTS CO. LTD.

Exhibit 343

COPY

British Titan Products Co. Ltd.
Billingham
Copy of letter from:

IMPERIAL CHEMICAL INDUSTRIES,
Commercial Research Derp.,
Millbank, SW.1.

C. J. Stopford, Esq., 30. August 1937.
British Titan Products Co. Ltd.,
Billingham.

Dear Sir,

BRITISH PATENT CASE 2455, Etc.

Many thanks for your letter of August 26., confirming that the National Lead Co. would be prepared to deal with the U.S. patent under the above cases as though the whole of the patent came completely within the scope of the cross-licensing arrangement between National Lead Co. and Du Pont de Nemours, and that they would grant du Pont full rights under the patent, if it is assigned to them. I am obtaining confirmation from our Legal Department that in these circumstances we would agree to assign the American patent to the National Lead Co. when granted, and will let you have a formal communication as soon as I have obtained confirmation from the Legal Department.

Yours faithfully,
for
IMPERIAL CHEMICAL INDUSTRIES LTD.
(sgd) E. D. CATTON.

Exhibit 344

Chromium-Treated Titanium Pigments

December 10, 1937

Mr. W. C. Beschorman—Executive Vice President
C. F. Kaegebehn—*Patent Department*

Dear Mr. Beschorman:

I beg to report on my discussion of this matter with Mr. Hancock, Patent Attorney for the Krebs Division of E. I. du Pont de Nemours and Company.

The enclosed copy of my letter to Dr. Jebsen explains that the U.S. application has to be divided into three applications; one of which, specific to a treatment of titanium pigments with chromium salts, is to be assigned to us. This is in line with the obligations of I.C.I., who will have to turn over to du Pont their artificial silk developments. They are obligated to turn over to British Titan Products Company Ltd. only developments in the preparation of titanium pigments.

The division of the U. S. application into three cases facilitates keeping the respective rights of all parties separate and distinct.

I should like to call your attention to the fact that under this arrangement, which is in my judgment so far as we can go under our Agreements, du Pont stands to own patents covering the use of chromium treated pigments in the manufacture of artificial silk; and thus, in a certain sense, to dominate the use of the products prepared under the patent which we will acquire. In such matters in the past, du Pont has taken the position that they will not use such U. S. patents to interfere with our sales, but will grant to our customers a license for a nominal royalty.

Mr. Hancock and I do not feel that the matter is of sufficient importance at this time to raise this question. Mr. Hancock feels it will be very difficult to settle the matter with the various departments of du Pont, other than Krebs, until the actual value of the patents and the products are known. Consequently, I have only mentioned this point to you so that, if in the future any interest develops in chromium treated pigments, for use in artificial silk, you may wish to take up with Mr. Rupprecht the attitude of du Pont with respect to the U.S. patents.

Yours very truly,

CFK:RC
enc.

Exhibit 344

December 10, 1937

Dr. G. Jebsen
26 rue de la Pepiniere
Paris-Se-France

RE: Chromium-Treated Titanium Pigments
Cases T. 175-178

Dear Dr. Jebsen:

Upon receipt of your letter of November 23rd, I took up the matter further with E. I. du Pont. The situation with respect to the United States application, Serial No. 51,372 is as follows:

At present, the U.S. application contains three patentably distinct features:

a) The treatment of rayon delustered with TiO_2 with chromium salts;

b) Preparation of artificial silk or similar articles of regenerated cellulose containing TiO_2 pigments treated with chromium salts; and

c) Retreatment of TiO_2 pigments with chromium salts.

The U. S. Patent Office has requested that the U.S. application be divided so that the claims drawn up to each of these three features will be contained in separate applications.

As we understand the obligations of I.C.I., that company is obligated to turn over to du Pont for the U.S. its developments in artificial silk; and to British Titan Products Company Ltd. its development in the manufacture of

titanium dioxide pigments. Consequently, it is proposed that the divisional application covering the treatment of titanium dioxide pigments be assigned to National Lead Company in accordance with the lines agreed upon.

As soon as the divisional application has been filed, du Pont will advise us of the date of filing, the serial number, etc., and we will prepare an assignment document to be executed by I.C.I. vesting title to the application and subsequent patent in the National Lead Company. When this document has been executed and returned to us, we will advise du Pont by letter that they are entitled to an non-exclusive license under the application and in the patent which may issue.

Yours very truly,

CFK:RC
cc: Mr. Beschorman

Exhibit 345

COPY

January 19th
1938

E. I. Du Pont De Nemours and Company
Krebs Pigments Division
Wilmington, Delaware

Attention: Mr. John P. Hancock
Legal Department—
Patent Division

Re: U. S. Applications Covering the
Chromium-Treatment of
Titanium Pigments

Gentlemen:

This letter will confirm our understanding of the present arrangement regarding the U. S. applications relative to the Chromium-Treatment of Titanium Pigments and the developments leading up to it.

The Imperial Chemical Industries, Ltd., whose employees developed the chromium-treatment of titanium pigments in relation to the use of such treated pigments in the manufacture of artificial silk, is under contract to the British Titan Products Company to turn over to that company all its inventions relating to the manufacture of titanium pigments. British Titan Products Company, is, in turn, obligated to Titan Company, Inc. to turn over rights in all such inventions relating to the manufacture of titanium pigments for countries outside of Great Britain. Titan Company, Inc. is obligated to turn over such rights to the National Lead Company for the United States and Canada.

Exhibit 345

Apparently, inadvertently, Imperial Chemical Industries placed at the disposal of Du Pont the development of chromium-treated titanium pigments, not only for their use in artificial silk, but also with respect to their manufacture.

The original U. S. application was numbered Serial No. 758,684, to which a continuation case—U. S. Serial No. 51,272—was filed on November 23rd, 1935. In December, 1936, this situation was first brought to the attention of National Lead Company by Titan Company, Inc., inquiring what rights National Lead Company would desire in the U. S. application. National Lead Company replied that they desired full rights for the United States and Canada to that part of the U. S. application relating to the treatment of titanium pigments to which they were entitled through their arrangement with Titan Company, Inc. It was suggested that the U. S. application be assigned to National Lead Company and that Du Pont be granted a license thereunder. This proposal was made to Imperial Chemical Industries and met with their approval (letters of August 27th, 1937—British Titanium Products Company to Imperial Chemical Industries, attention of Mr. E. D. Catton, and the reply thereto of August 30th, 1937, with official confirmation of Imperial Chemical Industries given British Titan Products Company in letter of November 18th, 1937, signed by T. Bradley, for Solicitor).

Conversations were had with Mr. John P. Hancock, Patent Attorney of the Krebs Pigments Division of E. I. Du Pont De Nemours and Company, on November 5th, 1937 and December 9th, 1937, to determine the most expeditious manner of handling the situation. These conversations developed the following facts: the pending U. S.

application related only to the manufacture of artificial silk to which National Lead Company receives no rights from Imperial Chemical Industries. Since the application, however, discloses the preparation of chromium-treated titanium-pigments, in which National Lead has rights, Mr. Hancock agreed to have filed a divisional application covering specifically the preparation of chromium-treated titanium pigments and to have papers executed assigning this application and the patent which may result therefrom to the National Lead Company, it being understood that E. I. Du Pont is to enjoy a non-exclusive license in the U. S. patent, when and if issued.

The foregoing summarizes the situation to date and confirms the fact that National Lead Company will grant to E. I. Du Pont De Nemours and Company a non-exclusive license in any U. S. patent which may be granted on the basis of the development by Imperial Chemical Industries in chromium-treated titanium pigments as set forth in U. S. Serial No. 758,184 and in any continuation or division thereof.

Yours very truly,

NATIONAL LEAD COMPANY

C. F. KAEGEBEHN

CFK:lo

cc. Mr. W. C. Beschorman
Mr. C. F. Garesché

Exhibit 346

Cases T. 175—T. 176—Chromium-Treated TiO_2

April 30th, 1938

Dr. W. W. Flechner—Titanium Division

Mr. C. F. Kaegebehn—Patent Department

Dear Dr. Flechner:—

For your information, the status of the above-identified cases is as follows:

The parent application was filed on November 23rd, 1935, in the name of Harry Donald Mudford, assigned to Imperial Chemical Industries. A divisional application—Serial No. 202.879—was filed on April 19th, 1938 in the name of the same inventor. Both these applications will be assigned by I. C. I. to National Lead Company, subject to a non-exclusive, royalty-free, irrevocable license to be enjoyed by E. I. Du Pont. The parent application—Serial No. 51.272—was allowed a month ago. We are preparing the necessary assignment documents and will pursue this matter in accordance with this memorandum.

Yours very truly,

CFK:lo

c.c. Mr. C. F. Garesché

Mr. J. L. Turner

Exhibit 347

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 31, 1938

J. B. Henrich, Jr., Esq.
c/o National Lead Company
111 Broadway
New York City.

Re: *Proposed License Agreement—*
Mudford U. S. Applications

Dear Mr. Henrich:

This will acknowledge and reply to your letter of May 17th, enclosing form of proposed license to du Pont under the above I. C. I. applications which are to be assigned to National Lead.

I have gone over the contra and have the following suggestions to make regarding its provisions:

Article 1. It is noted that the grant in this article is limited to the right of du Pont to practice the inventions throughout the United States only. Unless reasons exist of which I am unaware; it would be preferable to modify the grant to include the right in du Pont to practice "throughout the United States, its territories and possessions."

It is also noted that you have incorporated in this Article 1 the language of the agreement of January 1, 1933 between Titanium Pigments and Krebs, with respect to purchasers of products from du Pont being privileged to use the same. This language appears to be unduly broad

and I believe it would serve our purposes if the following language were adopted in lieu of the January 1, 1933 clause:

> "it being further understood and agreed that all purchasers from du Pont of any claimed product, intermediate or final, of manufacture under the license hereby granted shall be privileged to use the product so purchased for the purposes described and/or claimed in the aforesaid applications for letters patent or any patent or reissue arising therefrom."

Article 2. This article might be modified to conform with the change suggested in Article 1, i.e., in lieu of "throughout the United States", language such as "throughout the United States, its territories and possessions" or "throughout the licensed territory" should be employed.

The following amendments to certain ensuing Articles of the agreement are also suggested, each of which is self-explanatory:

Article 3, line 6, after "NATIONAL" insert "at NATIONAL'S expense".

Article 6, line 4, after "infringers" insert a comma and add "but shall be under no obligation to do so,". The proviso clause appearing at the end of this Article 6 might be substituted by the following:

> "provided, however, that NATIONAL *at its election* may bring suit against infringers in its own name and/or join with DU PONT, *but only upon the written consent of* DU PONT, in other than a nominal capacity." (The emphasized portions indicate the changes suggested.)

Exhibit 347

Article 7, line 7, after "NATIONAL" insert "at NATIONAL'S expense"

If the proposed changes are acceptable to you, it would be appreciated if they would be incorporated in the license contract prior to its execution.

I have not procured the necessary consent of du Pont to enter into the agreement, but I can foresee no difficulty upon adoption of the proposed changes. Therefore, and provided the agreement is otherwise acceptable to you, it might be executed by your company prior to submission to us for like execution.

Very truly yours,

E. I. DU PONT DE NEMOURS & Co.

By JOHN P. HANCOCK

JOHN P. HANCOCK

JPH:H

Exhibit 348

June 7, 1938.

Mr. J. P. Hancock
E.I. du Pont de Nemours and Company
Wilmington, Delaware.

Re: Proposed License Agreement—
Mudford U.S. Applications

Dear Mr. Hancock:

This will acknowledge receipt of your letter of May 31, 1938 relating to the proposed license to be granted by National Lead Company to Du Pont under the Mudford U. S. patent applications.

We have considered the changes suggested by you in the proposed license agreement and have found no objection to them. We are, therefore, drawing up a new license agreement embodying the changes recommended by you and shall forward it to you when we receive the executed assignment of the Mudford U. S. patent applications from Imperial Chemical Industries Ltd.

Yours very truly,

NATIONAL LEAD COMPANY

JBH:RC

Exhibit 345

October 27, 1938

Mr. John P. Hancock
E. I. Du Pont de Nemours & Company
Wilmington, Delaware

RE: License Agreement—Mudford U.S. Patent Applications 51.272 and 202.879—Manufacture of Artificial Silk.

Dear Mr. Hancock:

Further to our letter of June 7, 1938, we wish to inform you that we have received a duly executed assignment of the above-identified applications from Imperial Chemical Industries, Ltd. We are therefore, enclosing herewith an original and a carbon copy of a License Agreement between National Lead Company and Du Pont under the above patent applications. These agreements have been duly executed by National Lead Company and we would appreciate your having them executed by Du Pont and returning the carbon copy to us for our files.

We note that U.S. Patent Application No. 51.272 has already issued as U. S. Patent No. 2.152.491 on October 11, in the name of Imperial Chemical Industries Ltd. We would appreciate it if you would arrange to have application No. 202.879, which is still pending, issue in the name of National Lead Company in accordance with the terms of the assignment from I.C.I.

Yours very truly,

JBH:RC
encls.

Exhibit 349

LICENSE AGREEMENT

THIS AGREEMENT made and entered into this 25th day of October 1938 by and between NATIONAL LEAD COMPANY, hereinafter referred to as NATIONAL, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, with its principal place of business at 111 Broadway, New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY, hereinafter referred to as DU PONT, a corporation organized and existing under and by virtue of the laws of the State of Delaware with its principal place of business at Wilmington, Delaware.

WITNESSETH THAT

WHEREAS, NATIONAL is the owner by assignment of the entire right, title and interest in and to the following United States applications filed by Henry Donald Mudford as inventor and entitled MANUFACTURE OF ARTIFICIAL SILK,

U. S. Pat. Appl. Serial No. 51,272—filed November 25, 1935 (Now U. S. Patent No. 2,152,491 dated October 11, 1938)

U. S. Pat. Appl. Serial No. 202,879—filed April 19, 1938 (which is a division of the above U. S. application Ser. No. 51,272)

WHEREAS, DU PONT desires to obtain and NATIONAL is willing to grant, a non-exclusive, non-assignable, royalty-free license to practice the inventions and to manufacture, use and/or sell the products described in the aforesaid patent applications throughout the United States, its territories and possessions.

Exhibit 349

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth and other good and valuable considerations, the receipt whereof is hereby acknowledged and in further consideration of and conditional upon the true and faithful performance by the parties hereto of all the undertakings and covenants hereafter set forth, it is mutually agreed as follows:

1. NATIONAL hereby grants to DU PONT, its subsidiary companies present and future, a non-exclusive, royalty-free, non-assignable license under the aforesaid patent applications entitled MANUFACTURE OF ARTIFICIAL SILK, to-wit:

U. S. Pat. Appl. Serial No. 51,272—filed November 23, 1935 (Now U. S. Patent No. 2,132,491 dated October 11, 1938)

U. S. Pat. Appl. Serial No. 202,879—filed April 19, 1938 and under any and all U. S. Letters Patent that may be obtained thereupon and all divisions, reissues and extensions thereof, to practice throughout the United States, its territories and possessions, any process disclosed or claimed in said patent applications and to make, use, and/or sell throughout the United States, its territories and possessions, any products described and/or claimed in said patent applications, it being further understood and agreed that all purchasers from DU PONT of any claimed product, intermediate or final, of manufacture under the license hereby granted shall be privileged to use the product so purchased for the purpose described and/or claimed in the aforesaid applications for Letters Patent or any patent or reissue arising therefrom. The license herein granted shall extend

to the full end of the term for which Letters Patent may be subsequently granted in the United States on the above-mentioned patent applications.

2. It is understood and agreed by and between the parties hereto that the rights and licenses herein vested in DU PONT shall be subject to the right of NATIONAL or any of its controlled subsidiaries to freely use and employ said inventions comprised within said patent applications throughout the United States, its territories and possessions.

3. DU PONT, during the period of this license acknowledges any patent or patents which may subsequently issue as result of the aforesaid applications, as good and valid and agree not to directly or indirectly contest the validity of such patents, nor to assist others in any infringing operation, but as far as reasonably possible agrees to assist NATIONAL at NATIONAL's expense, in maintaining the validity of each of said patents.

4. It is understood and agreed that the herein created license shall pertain to the MANUFACTURE OF ARTIFICIAL SILK applications hereinabove set out and to such patent or patents as may issue thereupon and to all reissues and extensions thereof, and that no rights whatsoever are granted herein under any other inventions, patent applications, and/or patents now owned or hereafter acquired by NATIONAL.

5. NATIONAL shall be under no obligation to defend DU PONT against suits by infringement arising out of DU PONT's operations under the license herein granted, nor

shall NATIONAL be liable to any extent for damages assessable against DU PONT by virtue of any such infringement.

6. In the event any Letters Patent which may issue as a result of the aforesaid applications are infringed by a third party, then DU PONT shall have the right to bring suit against such infringers, but shall be under no obligation to do so, and for the purpose of said suit shall have the right to sue in NATIONAL's name, or include NATIONAL as a nominal party-plaintiff with NATIONAL's prior written approval thereof. NATIONAL shall be under no obligation to be other than a nominal party to said suit and under no obligation to share the expenses of such suit, provided, however, that NATIONAL, at its election, may bring suit against infringers in its own name and/or join with DU PONT, but only upon the written consent of DU PONT, in other than a nominal capacity.

7. Any recoveries in litigation arising in accordance with the provisions of the next preceding paragraph shall accrue to the party by whom the expenses of such litigation are borne, and in cases where such expenses are borne jointly by DU PONT and NATIONAL, such recoveries shall be divided between said parties proportionately to their share in such expenses. Where NATIONAL elects to bring suit in its own name DU PONT agrees to assist NATIONAL at NATIONAL's expense to obtain evidence to be used by NATIONAL in the prosecution of suits by infringement hereunder to the extent to which DU PONT is reasonably able to do so, and to otherwise assist NATIONAL in the prosecution of such suits to the same extent.

Exhibit 349.

7. This agreement shall be binding upon and inure to the benefit of the parties hereto, their successors, assigns and legal representatives.

NATIONAL LEAD COMPANY

FLETCHER W. MARSHALL
President

E. I. DU PONT DE NEMOURS AND COMPANY
Krebs Pigments Department
General Manager

C. H. RUPPRECHT

ATTEST:

H. O. BATES
Secretary

ATTEST:

E. A. HOOVER
Asst. Secretary.

Exhibit 350

KREBS PIGMENT & COLOR CORPORATION
256 VANDERPOOL STREET
NEWARK, NEW JERSEY

January 9, 1934

CONFIDENTIAL

Adrian D. Joyce, President,
The Glidden Company,
Cleveland, Ohio

Dear Mr. Joyce:

This will confirm my conversation with you in New York yesterday, during which I explained our patent situation on Titanium Dioxide, with the suggestion that it might be advisable for your Patent and Technical people to discuss the matter with our staff.

I understand you will take this matter under advisement and inform me when it will be convenient to have an appointment. You mentioned that it would probably be preferable to hold such conference in Cleveland, and this would be entirely agreeable to us.

Meanwhile, I am attaching hereto a list of the Titanium Dioxide patents owned by Krebs Pigment & Color Corporation.

Yours very truly,

/s/ C. H. RUPPRECHT
President

Exhibit 351.

COPY

NATIONAL LEAD COMPANY

111 Broadway

New York

May 9, 1934

Mr. Adrian D. Joyce, President
The Glidden Co.
Cleveland, Ohio

Dear Mr. Joyce —

I did not get very far in my effort to secure an additional supply of TiO_2 for you. Our Titanium people are so far backordered that they simply cannot take on any new obligations until the books are cleared.

The best suggestion I can make is that the matter rest for sixty days, and at that time it be taken up again and the situation surveyed.

I am sorry that I cannot give you a more satisfactory answer.

With my very kind regards,

Yours very truly,

F. M. CARTER (Signed)
President

Exhibit 352

Ste. Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

May 11, 1934

Re: Brit. Pat. Spec. No. 406,580—Metals & Thermit Corp.

Gentlemen:

We have given careful consideration to your letter of April 20, 1934, and submit the following reply.

British Patent Specification No. 406,580 is equivalent to United States Patent 1,947,226 to Hartmut W. Richter which, although it is unassigned, we understand to be owned by interests of the Metals and Thermit Corporation. The processes described in both are identical and the claims are similar in scope. It is one of a group of eight patents which, as will be shown later, may possibly furnish the basis for an attempted entry into the manufacture of titanium pigments in the United States. We are engaged at present in an exhaustive study of the patents owned and controlled by the Titanium Pigment Company, with particular reference to which of our patents may be infringed by any of this group.

As to the patent in question. You have undoubtedly noted that the process disclosed is an addition of a basic sulfuric acid solution of hydrated titanium oxide prepared from unreactive forms; e.g., rutile, to an acid solution of titanium in sulfuric acid in order to facilitate precipitation of titanium hydrates and to increase the yield. As we view this process, the addition of the basic solution to the acid solution accomplishes two ends: (1) reduces the acidity and, (2) furnishes a seed or nuclei for the precipitation.

Although we have not yet completed our study, it appears to us that certain of our United States Patents may possibly be infringed by this patent. These are:

Exhibit 352

1. U. S. P. 1,333,819. Mar. 16, 1920. To Jebsen covering the preparation of basic titanium solutions and the solutions themselves.

2. U. S. P. 1,288,863. Dec. 24, 1918. To Fladmark covering the precipitation of titanium hydrates by boiling concentrated solutions at atmospheric pressure.

As to the seeding effect of the addition of a basic solution to an acid solution of titanium sulfate, it appears that this feature may infringe,

British Patent 388,998 to I. G. Farbenindustrie covering the use of solutions of ortho-titanic acid to titanium sulfate solution in order to facilitate precipitation,

and also our application No. 697,304.

These references are possibly not the only ones pertaining to the case but are offered to you as suggestions should you decide to prosecute your opposition to grant.

As to the Metals and Thermit Company. We can supply the following information.

It was first incorporated in the State of New Jersey, in the U. S. A. as the Goldschmidt Detinning Company. In 1916 it acquired all the stock of the Goldschmidt Thermit Company and 1918 changed its name to Metals and Thermit Corporation. At present the company, in addition to its detinning operations, makes and markets "Thermit" a welding compound. It is capitalized for about six million dollars, has a surplus of about one-half million dollars, and is regarded as in sound financial position. It is also regarded as possessing an experienced management and favorable bank and trade relations. Prior to the war it was connected with the Goldschmidt interests in Germany but whether such connection exists today we cannot state.

Exhibit 352

Recently the Metals and Thermit Corporation entered into an arrangement with The Glidden Company, a concern manufacturing paints, lacquers, lithopone, etc., whereby a new company—The American Zirconium Company—was formed, whose purpose is, we learn, to engage in the manufacture of titanium pigments. Our information is that a plant is being constructed to this end at Baltimore, Maryland. Their intention is, we understand, to operate eventually on rutile (Mr. Fred W. Cohen, Vice-Pres. of Metals and Thermit is also connected with the American Rutile Company, owners of large rutile deposits in West Virginia), but in the beginning will probably operate on ilmenite. The patents which the American Zirconium Company controls are as follows:

1s	No. 1,640,952.	Aug. 30, 1927.	S. J. Labowsky.	Assigned to Metals & Thermit.
2s	" 1,793,501.	Feb. 24, 1931.	"	Unassigned.
3s	" 1,843,427.	Feb. 24, 1932.	"	Assigned to Metals & Thermit.
4s	" 1,888,993.	Nov. 29, 1932.	"	" " " " "
5s	" 1,922,328.	Aug. 15, 1933.	M. L. Rhodes.	Unassigned.
6s	" 1,931,662.	Oct. 24, 1933.	"	Assigned to Glidden.
7s	" 1,932,687.	Oct. 24, 1933.	M. W. Richter.	Unassigned.
8s	" 1,947,226.	Feb. 13, 1934.	"	"

In view of this situation, it may be of importance, to say the least, to oppose the Patent Specification No. 466,980 filed in the British Patent Office.

We are watching developments very closely and will be glad to keep you advised and to assist in any way with the contemplated opposition to grant.

Very truly yours,

Titanium Pigment Co., Inc.

W. F. Meredith, President

CFK:MGY cc: GWT, WFW, PCP, CFK

Exhibit 353

May 17th, 1934.

Mr. Adrian D. Joyce, President,
American Zirconium Corporation,
Baltimore Trust Building,
Baltimore, Md.

Dear Mr. Joyce:—

We have been advised that you propose to enter into the manufacture of Titanium pigments, and in fact, are commencing the construction of a plant in Baltimore. We presume that our advice is correct.

I am taking the liberty of calling your attention to the fact that we own and control a great many patents covering processes of manufacture and uses of Titanium pigments. We will be glad to furnish you with a list of these patents. We believe that they control important steps for the economical manufacture of Titanium pigments, and we think we should advise you of this fact. Our friendly relations with you personally would make us regret exceedingly if we had to take action later on for the infringement of any of these patents.

We will be glad to discuss this patent situation with you and your people at any time you may select.

Yours very truly,

TITANIUM PIGMENT CO. INC.
President.

WFM/MC
CC—Mr. Carter
Dr. Thompson.

Exhibit 354

COPY

June 19, 1934

Mr. F. M. Carter, President
National Lead Company
111 Broadway
New York City

Dear Mr. Carter:

I am attaching copy of a letter I have received from our Vice President, Mr. W. J. O'Brien, covering his report of the meeting of your technical representatives with the technical men from our organization to discuss the patent situation. I am sure that if you will read this carefully you will be convinced that in manufacturing Titanium Pigments according to our processes, we will not come in conflict with the patents of the Titanium Pigment Company.

You doubtless have received a report from Dr. Thompson, and I will be glad to have a copy of this at your convenience. I will also be glad to make an appointment at your convenience to discuss any matters not clearly understood.

With my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:CS

Exhibit 355

August 10, 1934

Dr. G. W. Thompson, Chief Chemist
National Lead Company
Research Laboratories
Building

Dear Dr. Thompson:

Pursuant to instructions received from you over the telephone on Thursday, July 19, I have given the statement made in your letter to Mr. Carter of July 9, 1934, second page, first paragraph, careful consideration and investigation, and beg to comment as follows.

This statement is contained in a paragraph, the intent of which is to refute certain paragraphs contained in the introductory section of Mr. O'Brien's letter to Mr. Joyce of June 26, 1934. The paragraphs written by Mr. O'Brien to which the paragraph in your letter specifically applies, are as follows:

> "It is my opinion that the art of making titanium oxide pigment was very well advanced and covered by patents prior to the time the Titanium Pigment undertook the manufacture of titanium oxide. The National Lead Company became interested in the manufacture of titanium oxide around 1921 at Niagara Falls. They took over the Titanium Pigment Company and acquired, among other patents, the Barton and Rossi patents. Subsequently, they acquired the patents of the Norwegian Company including Goldschmidt, Jebsen, Farup, Fladmark, Olsen and Forland, and Nielson. They also acquired Wrigley & Spence and certain other British patents.

Even before this, there were certain other patents such as the Weintraub patent, which because of its date, was not of interest to the Titanium Pigment Company. At any rate it was not acquired.

"In addition to these patents there is a great deal of literature as far back as 1828 concerning the chemistry and technology of titanium oxide and its recovery from ilmenite sands. In fact, a study of the whole art of the chemistry and technology involved in the preparation of titanium oxide shows that the field has been a very prolific one during the last hundred years, and as a result of this work there is a tremendous mass of data and patents. As a consequence, any of the unexpired patents or patents on which there might be some possibility of infringement, are not basic patents but are patents pertaining to some particular phase in operation.

"Many of these patents are very questionable where there is any invention involved due to the prior art and knowledge already existing. Of course, questions pertaining to the validity of these patents could only be settled by court action. Unfortunately, there has been no litigation involving titanium oxide processes, and the validity of these patents has never been tested out in court."

In reply to the above quotation, your letter contains the following paragraph:

"With this position we most certainly differ. The history of the manufacture of titanium pigments presents competent evidence that the inventions covered by unexpired patents which we now own re-

sulted in the production of titanium pigments vastly superior through having greater commercial value to those produced prior to such inventions, and with greater economy of production. It is our contention that the prior art discloses a searching and groping for what was ultimately attained by the patents on which the strength of our present positions rests." (underscoring mine).

The last sentence of the above is the one for which, as I understand it, you wish me to find confirming data from the early records of the Titanium Pigment and National Lead Company.

Before going into the data which I have been able to collect, I should like to comment briefly on the relation between the above quoted paragraph in your letter, and the paragraphs taken from Mr. O'Brien's letter.

The first part of Mr. O'Brien's letter is a general introduction leading up to a detailed discussion of the individual steps in the proposed process of the American Zirconium Company, as revealed to us on June 15, 1934. This discussion sets the stage, as it were, for what follows, namely, a detailed discussion of those patents owned by the Titanium Pigment Company which might possibly have a bearing on certain steps in the proposed process of the American Zirconium Company. Mr. O'Brien attempts to develop the idea that the prior art understood how to manufacture satisfactory titanium oxide pigments.

The paragraph in your letter which is in question was written to refute these remarks of Mr. O'Brien. In its way, it is as general as his statements. The phrase, "patents on

which the strength of our present position rests," refers to the entire group of some sixty-eight patents which we now own or control.

The inference may be drawn that inasmuch as the remaining portion of your letter refers specifically to only four out of these some sixty-eight patents, as follows,

U. S. P. #1,288,863 Fladmark
" 1,333,849 Olsen and Forland
" 1,333,819 Jebsen
" 1,348,129 Goldschmidt

the phrase, "patents on which the strength of our present position rests," refers only to these four patents. Such inference, however, does not appear to be warranted from the study of both letters when viewed in the light of the above comment, namely, that the statement contained in your letter is part of a general refutation of equally general contentions contained in the introductory part of Mr. O'Brien's letter.

Viewed in this light, it is not difficult to find confirming data in the early records of the National Lead and Titanium Pigment Company. If the statement be restricted as applying only to the four above mentioned patents, then the task is more difficult, inasmuch as the fact is that the Titanium Pigment Comany did not immediately place into operation the processes contained in these four patents, and did not actually offer pure titanium oxide to the paint trade until 1925 and, even then, did not produce such pure titanium oxide from a process based upon these patents. In 1925, pure titanium oxide was offered to the paint trade manufactured by a process based upon methods worked out by Messrs. Barton and Ryan, which were not based on

the four patents discussed in your letter to Mr. Carter. Nevertheless, these methods constitute today part of the patent structure "on which the strength of our present position rests."

Consequently, there is very little data available concerning the manufacture of pure titanium oxide prior to 1925, and the quality of the product.

On the other hand, because production started on composite pigments, principally Titanox-B, there is ample evidence that the quality of the product was not comparable to the present day pigment. It appears to be sound reasoning to conclude that since the early composite pigments were inferior to the present day pigments, the quality of the titanium oxide which could have been produced in the early days was even more inferior, relatively, to the present day pure titanium oxide.

Our present process for manufacturing pure titanium oxide is to a large extent based upon the processes disclosed in the patents to Jebsen, Fladmark, Olsen and Forland, and Goldschmidt, inasmuch as the ore is attacked by insufficient sulfuric acid to form normal sulfates, the solution is reduced to a definite concentration of titanous sulfate, hydrolysis is effected by heating a concentrated solution, and the hydrated precipitate is calcined to obtain a crystalline structure. It therefore seems logical to contend that the economy of manufacture, and the quality of our present day titanium oxide is due, in a large measure, to the recent change in our manufacturing processes. The fact that these processes were not introduced for so many years after we acquired these patents, may be somewhat embarrassing, but not necessarily injurious to our legal position with respect to them.

Exhibit 355

It is my opinion that we should not be concerned too seriously with the statements made either in Mr. O'Brien's letter to Mr. Joyce, or in your letter to Mr. Carter, for several reasons. In the first place, your letter is clear in disclaiming any future responsibility for the statements made therein with respect to whatever legal position we may take relative to our patents. In the second place, should the developments with the American Zirconium Company reach the litigation stage, we would have to be guided entirely as to the manner of presenting our case and as to the kind of evidence offered by us to support our case, by our legal representatives.

Attached, hereto, is a table showing the quality of our present day pigments compared with those made in the past, as obtained from our early records. The sources from which this data was obtained are given.

In preparing this letter, I have consulted with Messrs. Turner, Washburn, and Barton, who are in agreement with the statements made herein.

Respectfully yours,

CHARLES F. KAEGEBEHN

CFK:MCY
Encl.

Exhibit 355

Possible Processes of American Zirconium Company, and Preliminary Survey of Pertinent Titanium Pigment Company Patents.

I. TiO_2 from Ilmenite.

a) According to prior art.

First: The preparation of a solution of titanium and iron in sulfuric acid by digesting ilmenite in an excess of sulfuric acid than would be required by all base-forming elements present in the ilmenite, and dissolving in water. Subjecting this solution to an uncontrolled reduction treatment and heating the solution at atmospheric pressure, without removing ferrous sulfate, to effect hydrolysis.

Discussions

If the hydrolysis is accomplished by boiling a solution of titanium and iron containing more than 80 grams TiO_2 per liter, it might infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If the reduction is carried out to a point where a sufficient amount of titanium is reduced to titanous condition in order to insure against reoxidation of ferrous iron to ferris during hydrolysis, it might infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

In view of the disclosures of Weintraub U.S.P. No. 1,014,793 and Barton U.S.P. Nos. 1,196,030, 1,196,031, there may be some difficulty in sustaining Fladmark's Patent.

If ferrous sulfate is removed by crystallization, it will infringe U.S.P. No. 1,338,473 Apr. 28, 1920 to Wrigley and Spence.

Exhibit 355

II. TiO_2 from Ilmenite and Rutile.

a) According to Rhodes Patent No. 1,922,328 Aug. 15, 1933.

First: The preparation of a rutile seed crystal by forming a sodium titanate, neutralizing this with hydrochloric acid, and adding the solution in which are suspended the rutile seed crystals to a titanium sulfate solution. Rhodes gives a typical formula of this solution as:

TiO_2	250 gr.	per liter.
Iron	25 "	" "
H_2SO_4	575 "	" "

(It will be seen that such a solution is slightly basic, it is concentrated as to TiO_2 content, and has apparently been freed from ferrous sulfate). The mixed solutions are hydrolyzed by boiling at atmospheric pressure.

Discussions

Early Spence Patents may protect Zirconium for the preparation of a titanate from 1 molecule of NaOH and 1 molecule of TiO_2 as rutile, forming $NaTiO_3$. However, if 1 molecule of NaOH is used to 2½ molecules of TiO_2 as rutile, which is the most economical procedure, then it will infringe U.S.P. No. 1,929,521 Oct. 10, 1933 to Ryan and Knoff.

If Rhodes prepares a concentrated basic solution from ilmenite, removes ferrous sulfate, after a reducing treatment, he will probably infringe U.S.P. Nos. 1,338,473 Apr. 28, 1920 to Wrigley and Spence, and 1,333,819 Mar. 16, 1920 to Jebsen.

If he reduces the ferric iron to ferrous and sufficient titanium to titanous to insure against reoxidation of iron, he might infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

If he hydrolyses by boiling a solution containing more than 80 grams TiO_2 per liter, he will probably infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If he removes iron as ferrous sulfate crystals, he will infringe U.S.P. No. 1,338,473 Apr. 28, 1920 to Wrigley and Spence.

b) According to Richter's Patents Nos. 1,932,087 and 1,947,226.

First: The preparation of nuclei from rutile by forming a sodium titanate, launching this with water, and dissolving the separated TiO_2 in 50% H_2SO_4 to form solutions of 90 to 300 grams TiO_2 per liter and which are basic in character, and adding this solution to an acid solution of titanium from ilmenite.

Discussions:

Richter can probably form a titanate of the formula $NaTiO_3$ but, if he uses 1 molecule of NeON to 2½ molecules of TiO_2, as rutile, he will infringe U.S.P. No. 1,929,521 Oct. 10, 1933 to Ryan and Knoff.

If the solution resulting from the treatment of the sodium titanate with 50% sulfuric acid is basic, he will infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If the solution contains more than 80 grams per liter and is hydrolyzed by boiling, he will infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If the mixed solution, i.e. the acid solution from ilmenite and the basic solution from the titanate, contains less

sulfuric acid than necessary for all base forming elements, he will infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If the solution contains more than 80 grams TiO_2 per liter and is hydrolyzed by boiling, he will infringe U.S.P. No. 1,288,863 Dec. 25, 1918 to Fladmark.

If, in adding to the acid solution from ilmenite, Richter leads in his basic solution from rutile in such a way as to preserve a more or less constant concentration of titanium during hydrolysis, then he will probably infringe U.S.P. No. 1,773,727 Aug. 26, 1930 to P. Farup.

III. TiO_2 from Rutile.

a) According to Labowsky's Patents Nos. 1,640,952, 1,793,501, 1,843,427, and 1,888,993.

First: Lubowsky prepares a magnesium titenate from a fusion or a fritting of rutile and magnesia, treats the resulting titanate with sulfuric acid, dissolves the cake in water, removes magnesium sulfate by chilling to O°C. to induce crystallization, reduces ferric iron to ferrous and some titanium to titanous, and precipitates TiO_2 by heating under pressure.

Discussions:

If Labowsky's titanium solution, after reduction, and removal of magnesium sulfate is basic, he will probably infringe U.S.P. No. 1,333,819 Mar. 16, 1920 to Jebsen.

If he reduces the solution to have sufficient titanous ions to insure against subsequent reoxidation of iron, he will probably infringe U.S.P. No. 1,333,849 Mar. 17, 1920 to Olsen and Forland.

If he hydrolysis by heating under pressure, he will probably infringe U.S.P. Nos. 1,402,256 Jan. 3, 1912 and 1,410,056 Mar. 21, 1922 to R. H. Buckman.

IV. Treatments and Conversion of the Hydrated Titanium Precipitates from any of the foregoing processes.

a) Calcining in the presence of a small amount of sodium titanate, according to Rhodes' U.S.P. No. 1,931,682.

Discussion:

The product from such treatment may possibly infringe U.S.P. No. 1,697,929 Jan. 9, 1929 to L. W. Ryan.

b) Calcining to yield a pigment of cryptocrystalline structure; having good paint qualities.

Discussion:

Such a step would probably infringe U.S.P. No. 1,348,129 July 28, 1920 to Goldschmidt.

c) Any treatment with phosphoric acid or phosphorous compounds to reduce, after calcination, a pigment of superior qualities.

Discussion:

Such a procedure would probably infringe one or more of the following patents:

U.S.P. No. 1,360,737. Nov. 30, 1920. P. Farup.
" " 1,412,027. Apr. 4, 1922. W. E. Washburn.
" " 1,820,988. Sept. 1, 1931. L. W. Ryan.
" " 1,916,236. July 4, 1933. L. W. Ryan.

d) Removal of SO_3 from hydrated titanium precipitates.

Exhibit 355

Discussion:

If an alkali-metal salt whose sulfate is water-soluble, is added to the pulp and the resulting sulfate washed out, it will infringe U.S.P. No. 1,361,867 Dec. 14, 1920 to Jebsen.

If a base is added prior to calcination, to form a pigment containing a titanate, one or more of the following patents will probably be infringed:

U.S.P. No. 1,436,164. Nov. 21, 1922. V. M. Goldschmidt.
" " 1,363,468. June 15, 1920. Nielson & Goldschmidt.
" " 1,363,469. June 15, 1920. Nielsen & Goldschmidt.

C.F. Kaegebehn
June 13, 1934.

MCK.

Exhibit 356

December 20, 1934.

Mr. Adrian D. Joyce
Colonial Hotel
Mt. Clemens, Michigan.

Dear Mr. Joyce:

I am glad to hear that you are at Mt. Clemens and trust that your stay there will be very beneficial for your sciatica.

At our Board Meeting today the proposition submitted to us by you to accept common stock in the American Zirconium Company and a membership on the Board of Directors of that Company in exchange for a non-exclusive license under our Titanium patents for the life thereof was discussed.

During the discussion several legal points as affecting our ownership of the stock were brought out which necessitate submission of same to our counsel before any final conclusion can be drawn. In a general way I may say we are in agreement in principle on your proposition.

I am leaving tomorrow afternoon for the holidays but will be back in New York on the morning of January 2nd and trust we can bring this matter to a conclusion very quickly thereafter. When will it be convenient for you to come to New York after January 2nd?

With kindest personal regards, and wishing you the Compliments of the Season, I am,

Yours very truly

W. C. BESCHORMAN
Executive Vice President.

Exhibit 357

COPY

Outline of an understanding arrived at today between W. C. Beschorman and A. D. Joyce covering the matter of exchange of licenses under certain patents relating to Titanium Pigments.

Briefly, it is understood that the Titanium Pigment Company, Inc. will grant to the American Zirconium Corporation a non-exclusive license under patents owned or controlled by the Titanium Pigment Company, Inc., or patents under which the Titanium Pigment Company are permitted to grant sub-licenses; and that the American Zirconium Corporation will grant non-exclusive licenses to the Titanium Pigment Company, Inc. for all patents and processes that they own or control in connection with the manufacture of Titanium pigments, together with an exclusive license to the Titanium Pigment Company, Inc. to make use of these processes and patents in the foreign field.

It is the purpose of this exchange of licenses to permit the Titanium Pigment Company, Inc. and the American Zirconium Corporation to manufacture Titanium pigments under processes developed or used by either of these concerns so far as it is in the power of either concern to grant permission for the use of such manufacturing processes.

The territory in which the American Zirconium Corporation can use these licenses being limited to the United States and its possessions.

The American Zirconium Corporation, in payment for licenses and rights to use processes used and developed by the Titanium Pigment Company, Inc., shall transfer to the Titanium Pigment Company, Inc. 10% of the total issue

of common stock of the American Zirconium Corporation. Inasmuch as there seems to be a possibility of a law suit in connection with the validity of the American Zirconium Corporation's patents and processes, or for violation by it of other patents not mentioned in this memorandum, then it is understood that the American Zirconium Corporation will undertake to pay to the Titanium Pigment Company, Inc. in lieu of dividends 10% of the annual profits of the American Zirconium Corporation after the payment of dividends on the American Zirconium Corporation's preferred stock, and without taking into consideration any of the expenses or costs or judgments for which it is rendered liable in connection with any such infringement suits, and during the pendency and until final settlement of same.

This memorandum is initialled on two copies as evidence of our understanding and is to be put in contract form by the Titanium Pigment Company, Inc. and is then subject to approval by the Boards of Directors of the respective companies and by the attorneys for said companies.

W. C. B. (Signed)
A. D. J. (Signed)

New York
February 14, 1935.

Exhibit 359

DRAFT

CONFIDENTIAL

February 20, 1935.

Adrian D. Joyce, President;
The Glidden Company,
c/o Hotel El Conquistador,
Tucson, Arizona.

Dear Mr. Joyce:—

Following our conversation in New York on February 14th, relative to your application for a license for your subsidiary, American Zirconium Corporation, under our patents covering Titanium Dioxide Pigments, the matter has been very thoroughly reconsidered and we have now prepared a form of license, as attached, setting forth definitely the final terms acceptable to Krebs Pigment & Color Corporation. If approved by you we are required to submit this proposed license to the Executive and Finance Committees of E. I. du Pont de Nemours & Company for final authorization, which procedure has been explained to you.

As I have stated to you previously, we believe our patent position to be of such strength and value as to be worth considerably more than the modified terms under which we are now offering you a license, but since negotiations have already been under way for some considerable time we are desirous of bringing the matter to a close, and are, therefore, submitting the attached license to you as our final proposition.

You will note that we are presenting this proposal on the basis of a much modified royalty schedule at definite rates per pound, and also on a percentage of spread between

an arbitrary cost of 8¢ per pound on our own published carload selling price to the general trade, with the condition that the first named shall in no case exceed amounts equal to the percentages shown of the difference or "spread" between this specified manufacturing cost and selling price, except where quantities exceed the annual quantities specified under the terms of the agreement.

Relative to your suggestion that provision be made to have our license include rights under any of our future patents in the Titanium Dioxide Pigment field, and that we would also be granted rights under any of your patents now issued or which may be issued, we regret that this is not of interest or acceptable to us. If either of us have patents in the future which are of interest to the other, they should be subject to negotiation, and we believe you will find us entirely reasonable with respect to any situations which may so arise. However, we are sorry that any blanket allowance of rights under future patents cannot be considered by us, and if at any time you have anything of value in the patent field, we will be very glad to discuss the same with you.

I hope that the proposed license agreement as now presented will be found satisfactory and acceptable, and that upon your return East we will be able to bring these negotiations to a speedy conclusion.

Trusting that your stay in Arizona will prove most beneficial in ridding you of your sciatica trouble, and with kindest regards, I remain

Very truly yours,

CHR:s
Encl.

President.

Exhibit 359

I

Amount of royalty American Zirconium Company Inc. would pay Krebs on basis of ½¢ to 1½¢ per pound as per schedule in proposed license:

	Quantity per Year	Rate of Royalty	Amount of Royalty	Average Royalty Rate
First	1,000 Tons	½¢ per pound	$ 10,000	.500¢ per lb.
Next	1,000 Tons	¾¢ per pound	15,000	.625¢ per lb.
Next	1,000 Tons	1¢ per pound	20,000	.750¢ per lb.
Next	1,000 Tons	1¼¢ per pound	25,000	.875¢ per lb.
Next	1,000 Tons	1½¢ per pound	30,000	1.000¢ per lb.
Next	1,000 Tons	1½¢ per pound	30,000	1.083¢ per lb.
Total	6,000 Tons		$130,000	

II

Rates of royalty American Zirconium Company Inc. would pay Krebs on basis of spread between arbitrary manufacturing cost of 8¢ per pound and Krebs' published carload selling price to general trade of 17¢ per lb. (a spread of $180.00 per net ton) to arrive at same amount of royalty annually as would be derived from the suggested "cents per pound" basis:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	5.56	$ 10,000	5,56
Next	1,000 Tons	8.33	15,000	6.94
Next	1,000 Tons	11.11	20,000	8.33
Next	1,000 Tons	13.89	25,000	9.72
Next	1,000 Tons	16.67	30,000	11.11
Next	1,000 Tons	16.67	30,000	12.03
Total	6,000 Tons		$130,000	

Exhibit 359

III

Rates of royalty American Zirconium Company Inc. would pay Krebs on basis of spread between arbitrary manufacturing cost of 8¢ per pound and Krebs' published carload selling price to general trade of 17¢ per pound (a spread of $180.00 per net ton) to provide a royalty to Krebs 25% greater than would be derived on the suggested "cents per pound" basis:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	6.94	$ 12,500	6.94
Next	1,000 Tons	10.42	18,750	8.68
Next	1,000 Tons	13.89	25,000	10.42
Next	1,000 Tons	17.36	31,250	12.15
Next	1,000 Tons	20.83	37,500	13.89
Next	1,000 Tons	20.83	37,500	15.05
Total	6,000 Tons		$162,500	

IV

Rates of royalty American Zirconium Company Inc. would pay Krebs, by rounding out percentages in schedule under III:

	Quantity per Year	% of Spread	Amount of Royalty	Avg. % of Accumulated Spread
First	1,000 Tons	7.00	$ 12,600	7.00
Next	1,000 Tons	10.00	18,000	8.50
Next	1,000 Tons	14.00	25,200	10.38
Next	1,000 Tons	17.00	30,600	12.00
Next	1,000 Tons	21.00	37,800	13.80
Next	1,000 Tons	21.00	37,800	15.00
Total	6,000 Tons		$162,000	

Exhibit 360

CC—Mr. Wm. Richter—Wil.
Mr. C. H. Lyman—Office

CONFIDENTIAL

March 21, 1935.

MR. W. F. HARRINGTON—WILMINGTON
MR. A. B. ECHOLS "

LICENSE AGREEMENT—AMERICAN ZIRCONIUM CORP.

At the Board Meeting held March 18th I reported that a letter had gone forward to Mr. Adrian D. Joyce, President of American Zirconium Corporation, The Glidden Company subsidiary, submitting our final proposition on a licensing agreement under our Titanium Dioxide patents, for which they had applied. This had been reviewed and approved by the former members of the Krebs Board, but it was suggested that copies, as attached, be sent to you for your information.

The letter directs attention to the fact that the proposed license is subject to final approval by the Executive and Finance Committees.

You will note that the salient points are a royalty payment based on tonnage, with a definite restriction of the tonnage which can be produced.

There is also attached a Guaranty of Performance upon the two stockholders of American Zirconium Corporation, namely, The Glidden Company and Metal & Thermit Corporation.

C. H. RUPPRECHT.

CHR:s
Encls.

P. S.—C. H. Lyman:—The extra copy of the above mentioned attachments requested by you is enclosed herewith.

C. H. R.

Exhibit 361

March 27, 1935

Mr. W. C. Beschorman, Executive Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

I beg to call your attention to a situation which I believe has a bearing upon our relations with the American Zirconium Corporation. I have been informed that there has appeared an advertisement in a British Scientific Journal to the effect that British Patent No. 351,841 owned by the Metals and Thermit Corporation was offered for sale of license to the British chemical industries.

This British Patent is apparently equivalent to United States Patents Nos. 1,793,501 and 1,888,993 both to Simon Lubowsky and assigned to the Metals and Thermit Corporation.

Under the terms of the 1920 Agreement, any license or sub-license which we may give in the United States must be conditional upon a similar grant of license under foreign patents owned by the licensee or sub-licensee to our foreign affiliates. That is to say, if an understanding has been reached with the American Zirconium Corporation, this particular British Patent in question should be offered gratis to the British Titan Products Company.

In this connection, may I respectfully suggest that, if it is contemplated to exchange licenses under future patents, provisions be made for us to inspect the pending applications of the American Zirconium Corporation. If our negotiations with the American Zirconium Corporation are following the lines of the 1920 Agreement, copies of such

applications should be sent through us to the Titan Company, Inc. in Paris, so that our foreign affiliates may reach a decision as to whether they desire licenses under corresponding foreign patents. The decision as to filing these foreign patents should rest with the Titan Company, Inc., in order that no foreign competition may develop based upon patents originally issued to American corporations which may be our licensees or sub-licensees, and which have been assigned by them to European companies who are competing with the group with which we are affiliated.

Very truly yours,

Titanium Pigment Co., Inc.
Secretary,
Patent Committee

CFK:MCY

cc: GWT
JLT

Exhibit 362

March 27, 1935.

Mr. Adrian D. Joyce, President
The Glidden Company
1963 Union Trust Building
Cleveland, Ohio.

Dear Mr. Joyce:

It has just come to my attention that the British Patent #351,841 owned by the Metals and Thermit Corporation is advertised in a British Scientific Journal as being offered for sale of license to the British Chemical Industries.

This British patent is apparently equivalent to United States Patents #1,793,501 and #1,888,993 both to Simon Lubowsky and assigned to the Metals and Thermit Corporation. We understand that the American Zirconium Company is operating under these patents.

In accordance with our proposed license to the American Zirconium Company all foreign patents owned either by The Glidden Company, the Metals and Thermit Corporation or American Zirconium Corporation applying to the Titanium field should be assigned to the Titanium Pigment Company, and we would consider it a breach of faith if prior to the signing of our License Agreement any of these foreign owned patents were alienated.

Very truly yours

W. C. Beschorman
Executive Vice President.

Exhibit 363

Letterhead of

THE GLIDDEN COMPANY

March 28th, 1935

Mr. W. C. Beschorman,
Executive Vice President,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Beschorman:

I am just in receipt of your letter of March 27th concerning British patent 351,841, owned by Metal and Thermit Company. I immediately called Dr. Hirschland, presi'ent of Metal and Thermit and asked him about this. He said to me that he had no information about the subject but will immediately investigate it. He also said for me to assure you that the patent referred to will not be sold and that his company will not do anything that could be construed as a breach of faith.

Dr. Hirschland said he could not understand the advertisement, but that he will immediately take steps to make sure the advertisement is withdrawn if it is a patent that his company owns.

Thanking you for calling this to my attention, I am

Very truly yours,

ADRIAN D. JOYCE
President

ADJ:Q

Exhibit 364

June 3, 1935.

Mr. C. J. Stopford, General Manager,
British Titan Products Company,
Billingham, England.

Dear Mr. Stopford:

Apropos of the matter of the opposition filed by the British Titan Products Company to British Patent 406,580 of the Metal & Thermit Corporation, we can now definitely inform you that the British Titan Products Company is in a position to secure a license under this patent.

It will, therefore, probably be advisable to abandon the opposition.

The Metal & Thermit Corporation has informed us that they also own British Patent No. 351,841 which is also at your disposal for license.

We are writing to Titan Co., Inc. at this time, acquainting them of the recently signed Agreement with the American Zirconium Corporation and inquiring as to how they wish the exchange of licenses to be carried out. We have requested a complete schedule of foreign patents and applications owned or controlled by the American Zirconium Corporation and its parent companies. The Glidden Company and the Metal & Thermit Corporation. To date we have received the desired information from Metal & Thermit and negotiations are progressing with the Glidden Company and the American Zirconium Corporation.

We are sending the schedule of Metal & Thermit patents to Titan Co., Inc. It appears to us that the transfer of licenses can probably be carried out most conveniently by handling the patents of each of the three companies as

a group. Accordingly, unless you would like specific information directly from us, we will carry on all future correspondence relative to this matter with Titan Co., Inc.

With very kind regards, we are,

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AJ

Exhibit 365

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Co. Inc.,
26, rue de la Pepiniere,
Paris, 8e—France.

June 7, 1935.

RE: Foreign Applications and Patents Now Owned by the Glidden Company and the American Zirconium Corp.

Gentlemen:

With future reference to the exchange of rights in foreign patents and applications of the American Zirconium Corporation concerning which we wrote you on June 3, 1935, we have just received information concerning this matter from the American Zirconium Corporation and the Glidden Company.

We are advised that neither The Glidden Company nor the American Zirconium Corporation has or has had any foreign patent applications in the titanium field. Consequently, there are no patents available to you from either company. The patents available to you are the two French, the two British, and one Norwegian discussed in our letter of June 3, 1935. The applications available to you are those U. S. applications now owned by the American Zirconium Corporation, the first of which was sent you with our letter of June 4, 1935.

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AL

Exhibit 366

Letterhead of

TITAN COMPANY, INC.

SA/LA

Paris, 13. June 1935

Titanium Pigment Co. Inc.
105 York Street
Brooklyn N. Y.

Att. Mr. C. F. Kaegebehn

Dear Sirs,

British Patent Spec. No. 406.580 Metal & Thermit Corp.

We beg to refer to our letter of 8th June 1934 by which we informed you that we intended to file an application for revocation of the above patent.

In view of your negotiations with the American Zirconium Co. (who controls the Metal & Thermit Corporation's titanium patents) which we, according to information from Mr. Stopford,, understand includes your taking over the rights under the British patents of this company, we have refrained from taking any action against the above British patent.

Yours very truly,

Per Titan Company Inc.

Andreas Ravnestad

Exhibit 367

June 14, 1935.

Mr. Milton Zucker, Patent Dept.,
The Glidden Company,
Cleveland, Ohio.

Dear Mr. Zucker:

This will acknowledge receipt of your letter of June 12 and the copies of the three U. S. applications of the American Zirconium Corporation as follows:

Bousquet et al	Ser. No. 6098	Feb. 11, '35
Allen & Bousquet	Ser. No. 6130	Feb. 11, '35
Little	Ser. No. 721,970	Apr. 23, '34

These, together with the three applications previously received and acknowledged, correspond with the list furnished us with your letter of May 31.

We thank you very much for your prompt attention in this matter and will again write you as soon as our foreign affiliates have had the opportunity of examining these applications.

Very truly yours,

TITANIUM PIGMENT CO., INC.

Secretary,
Patent Committee.

CFK:AL

Exhibit 368

June 14, 1935.

Dr. G. Jebsen
For Mr. Andreas Ravnestad,
c/o Titan Co., Inc.,
26, rue de la Pepiniere,
Paris, 8e—France.

RE: American Zirconium U. S. Ser. Nos. 6098, 6130, and 721,970.

Gentlemen:

Pursuant to Article V, Sections (a) and (b) as amended of the Agreement of 1920, and pursuant to Article VIII of our Agreement with the American Zirconium Corporation, we enclose herewith one copy of each of the following three U. S. patent applications owned by the American Zirconium Corporation:

Bousquet et al.	Ser. No. 6098	Feb. 11, 1935.
Allan & Bousquet	Ser. No. 6130	Feb. 11, 1935.
Little	Ser. No. 721,970	Apr. 23, 1934.

With the receipt of these three applications the American Zirconium Corporation has discharged its obligations to us up to the present time; that is to say, when the Agreement was concluded, the American Zirconium Corporation had only six patents pending. Together with the three applications previously sent you, these will complete the group.

We suggest that you assign new T Case numbers to these applications. Will you advise us as promptly as possible in what foreign countries you may wish applications

to be filed, and at the same time send to us any documents necessary to enable you to file the applications.

Very truly yours,

TITANIUM PIGMENT CO., INC.
Secretary,

Patent Committee.

CFK:AL

Exhibit 369

COPY

(ORIGINAL IN C. H. LYMAN'S SECRETARY'S FILES)

July 18, 1935

To : FINANCE COMMITTEE

FROM: EXECUTIVE COMMITTEE

LICENSE TO AMERICAN ZIRCONIUM CORPORATION (SUBSIDIARY OF THE GLIDDEN COMPANY) UNDER TITANIUM DIOXIDE PROCESS PATENTS OF KREBS PIGMENT & COLOR CORPORATION:

At a meeting of the Executive Committee, held yesterday, the above subject was discussed in detail with Messrs. C. H. Rupprecht, President, Krebs Pigment & Color Corportion, and Wm. Richter, General Manager, Fabrics & Finishes Department, as a result of which it was moved and unanimously carried that, subject to approval of the Finance Committee, the following resolution be adopted:

RESOLVED, that the granting of a license to American Zirconium Corporation under the titanium dioxide process patents of Krebs Pigment & Color Corporation be approved, on the basis of a royalty payment of 2% on Krebs carload selling price to the general trade, with restriction of tonnage which Licensee could produce, i.e., not more than 3,000 tons per year for three years beginning with 1935; not more than 6,000 tons per year for six years beginning with 1938; and not more than 9000 tons per year over the balance of the license period, which would run to the expiration of Krebs patents in the year 1950.

EXECUTIVE COMMITTEE

By M. D. Fisher

Secretary

Exhibit 369

American Zirconium Corporation (subsidiary of The Glidden Company) applied to Krebs Pigment & Color Corporation for a license under Krebs Titanium Dioxide process patents. It is believed that American Zirconium Corporation infringe a number of Krebs patents, but no proof is available, and it would be necessary to institute Court Interrogatory proceedings against American Zirconium Corporation to develop definite proof.

Negotiations between Krebs and American Zirconium Corporation have reached the point where Krebs' proposals have been rejected and counter proposals offered, all of which were discussed with the Executive Committee. As a result of the discussion the Committee approved granting of a license to American Zirconium Corporation on the basis of a royalty payment of 2% on Krebs carload selling price to the general trade, with restriction of tonnage which Licensee could produce, i.e. not more than 3000 tons per year for three years beginning with 1935; not more than 6000 tons per year for six years beginning with 1938; and not more than 9000 tons per year over the balance of the license period, which would run to the expiration of Krebs patents in the year 1950.

Based on Krebs present carload selling price, a 2% royalty on a production of 3000 tons per year would yield $20,400; on 6000 tons per year $40,800; and on 9000 tons per year $61,200. As selling prices are expected to decline over future years, these figures will be correspondingly lower.

License does not call for any exchange of information, know-how or future developments, and is confined entirely to Krebs' present issued patents in the pure titanium dioxide field. Any subsequent developments now in process or any patent applications in the extended titanium field are not included.

Exhibit 370

Letterhead of

TITAN COMPANY, INC.

SA/GK Paris, 25th. October 1935

Titanium Pigment Co. Inc.,
P. O. Box 58,
South Amboy N. J. U. S. A.

C. F. Kaegebehn, Esq.,

Dear Sir,

American Zirconium Corporation and Titanium Pigment Co. Inc.'s Agreement

At the end of the copies received from you, of Articles VIII and XIII of the above agreement we read the following:

> Art. VIII . . . "or sell the product t' reof throughout the full term of any patent granted thereof".
>
> Art. XIII . . . "shall continue and remain in force throughout the full term of said respective Letters Patent".

It appears that the expression "full term" refers to the life of the patent in Art. XIII but it is not quite clear to us whether this expression refers to the scope of the patent or the life of the patent in Art. VIII and we should be obliged if you would let us have your opinion to this question.

We should also like to know under which conditions the Agreement can be terminated sooner than the 7th. August 1951 as mentioned in the beginning of Art. XIII.

Exhibit 370

7. Who has to pay the expenses involved in the maintenance of patents which have not expired at the termination of the agreement?

Yours very truly,

Andreas Ravnestad
per Titan Company Inc.

Exhibit 371

November 7, 1935.

Dr. G. Jebsen,
For Mr. Andreas Ravnestad,
c/o Titan Company, Inc.,
26, rue de la Pepiniere,
Paris, 8e.—France.

American Zirconium Corporation—
Titanium Pigment Company Agreement.

Gentlemen:

Your letter of October 25, 1935 has been received. We have given thought to the three inquiries made by you concerning the interpretation of Articles VIII and XIII of the agreement between the American Zirconium Corp. and the Titanium Pigment Company. Our comments are as follows:

1.) As to the expression "full term" referring to patents as used in Articles VIII and XIII.

We interpret the expression "full term", as used in both articles to refer to the life of the patent. As used in the phrase quoted by you, we interpret its meaning to be that the exclusive licenses granted under this article are of such a nature as to permit us or our licensees to make, use, and sell the products of invention falling within the scope of any patent included in the License Field, throughout the full term (life) of the patent.

2.) Termination of the agreement prior to August 7, 1951.

Exhibit 371

We attach hereto copy of Article X which covers the only possibility of terminating the agreement prior to August 7, 1951. The first part of Article XIII refers, in our opinion, to Article X:

3.) As to expense of maintaining unexpired patents at the termination of the agreement.

There is no provision in the agreement to cover this point. However, it appears to us that the expense of maintaining any patent which has not expired at the termination of the agreement will devolve upon the party having title thereto. That is to say, where American Zirconium has through us turned over to yourselves or your European associates the right to file foreign applications for a given invention which applications mature into patents which are still in force at the expiration of the agreement, it will devolve upon you or your European associates who have taken title to the patent to maintain the respective patents. The Metal and Thermit Corporation has indicated with respect to its foreign patents that they are willing to convey title to you and accordingly, the expenses of maintaining these patents devolve upon you. The American Zirconium Corporation in turn has indicated that it will not file applications in any foreign countries but will give to you, through us, the right to file corresponding foreign applications and will convey complete title to you, so that the patent may issue in your name or in the name of one of your European associates. Should such patent issue and the agreement terminate prior to the expiration of the patent, then according to our interpretation; the expense of maintaining the patent, now your property, will devolve upon you.

In other words, we fully expect that in the future, all foreign patents issuing out of inventions made by American Zirconium Corporation will become the property of the Titan Company Inc., or one of its European associates and accordingly, the expense of prosecution and maintenance of such patents will devolve upon you or your European associates.

We trust that we have answered clearly questions raised by you. If any further questions occur, we will endeavor to answer them to the best of our ability.

Yours very truly,

TITANIUM PIGMENT COMPANY, INC.
C. F. KAEGEBEHN

Secretary,
Patent Committee.

CFK:PS

Exhibit 371

ARTICLE X

"In the event of any violation or failure of performance on the part of either party hereto of any of the terms and conditions of this agreement to be performed or assumed by it the other party may by notice in writing mailed to the delinquent party of such delinquency, and unless such delinquency has ceased and satisfaction therefor been made within six months after the mailing of such notice the other party may at its option terminate the license or licenses granted such delinquent party hereunder by notice in writing to that effect mailed to the delinquent party as its last known post office address. Such termination of any license or licenses as in this Article hereof provided shall not release the delinquent party hereunder which may have accrued at the date of such termination, nor terminate any license or licenses granted by the delinquent party hereunder."

Exhibit 372

Letterhead of

TITAN COMPANY, INC.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 8th 1936.

Dear Mr. Beschorman,

Re definition of the Licensed Field.

Many thanks for your letter of March 9th.

The definition of the Licensed Field in the 1920 agreement reads as follows:

"Licensed Field": By this designation as hereinafter "employed is meant to be included all substances, ma- "terials, or compositions consisting of or containing "above two percent. (2%) of titanium, or a com- "pound, or compounds, thereof, unless such sub- "stances, materials, or compositions contain by weight "more than five per cent. (5%) of a metal other than "titanium in its purely metallic (i.e. chemically un- "combined) state, and also to be included all apparatus, "methods, and processes, useful in the obtainment or "manufacture or use of said substances, materials, or "compositions in so far as said apparatus, methods "and processes may be employed in the production of "said substances, materials or compositions excepting "as aforesaid."

The definition in the American Zirconium Corporation agreement reads as follows:

Exhibit 372

"1. DEFINITIONS. (a). The designation "Licensed "Field" wherever herein employed means and includes "(1) all methods, processes and apparatus in the field "of manufacture and use of all titanium compounds "containing in chemical, mechanical or physical com- "bination two per cent (2%) or more of the element "titanium, and mixtures of such compounds, *which* "*can be used as pigments*, whether or not adapted for "other uses; and (2) all such titanium compounds and "mixtures thereof, *which can be used as pigments*, "whether or not adapted for other uses."

You will note that this last definition is limited to matters relating to pigments, and this is an essential difference, in my opinion, from the 1920 agreement.

Without having consulted anybody of our associated companies, I feel certain that they will share my opinion, although there may be a difference as to the importance which can be laid to future possible developments of Titanium compounds which are not pigments.

There is no doubt a wide field of possibilities in this respect, but, as everything concerning inventions and technical developments, it contains an element of gambling.

There are so many sides to the question of the importance and consequences of the wider definition of the Licensed Field, that it will take too long to go into it here.

In this connection, I will draw your attention to the definition of the Licensed Field, applied

1) in the agreements with the I. G. Farbenindustrie;

2) in the agreement with the British Titan Products Company, as well as the scheduled agreement No. 2 of the 1933 agreements for the formation of the British Titan Products Company.

Exhibit 372

Please note the reservation made by I. C. I. in this agreement and also article 11 of the Main Agreement of February 16th 1933.

I had a considerable amount of discussions with the I. C. I. regarding the reservation made, as they wanted to be free with regard to other compounds than pigments. You will note that article 11, however, provides for I. C. I. not dealing in or manufacturing such compounds, so that they cannot exploit any inventions in this direction except by selling them to us, and it has been verbally explained that such sales will be made on a very reasonable basis. We will in fact be the only buyer.

I drew the attention of the Board of Titan Company Inc. particularly on the position of the I. C. I. in my report for the year 1932, page 3.

Personally I mean that our concern should only take advantage of these stipulations in cases where

1) a considerable outlet for titanium compounds is involved;

2) a considerable profit can be expected and the invention is not due to a specific knowledge acquired through long years work by firms like the I. G. and I. C. I. If, however, such specific knowledge has been acquired, our justification to have it given to us is so small that it will only create a considerable antagonism with our partners.

Looking forward to your news, I am, with kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 372

P. S.—I the above I drew your attention to the definition of the Licensed Field applied in the agreements with the I. G. Fabenindustrie and the British Titan Products Company. The English one is a translation of the German and I should much appreciate if you will note the difference between this definition and the one in the 1920 agreement.

The 1920 definition includes, speaking in a popular way, processes for products made of titanium compounds and these products themselves, provided they contain 2% of titanium or more. This was of course impossible for the I. G. Farbenindustrie to accept, as it would include processes and products concerning for instance paper, artificial silk, etc., if it happens that they contain more than 2% of titanium.

I suppose this letter would be too long if I should enumerate the reasons and arguments which speak for the definitions as applied in the German and English agreements and which made the respective firms accept them, but we can perhaps take this up on my next visit to New York.

I am trying to arrange for my departure from here early May, as we agreed upon and, looking forward to see you all, I will inform you as soon as I am able to fix the date.

Exhibit 373

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, April 22nd 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re definition of Licensed Field.

I refer to my letter of April 8th, to which I should have added that I.C.I.'s objection to the Licensed Field including all Titanium compounds was, as you will remember, partly due to their arrangements with Du Pont by which Du Pont has a first call on I.C.I.'s inventions for U.S.A. and the Canadian Industries Ltd. for Canada, so that the consequences of Article 11, mentioned by me, only pertain to the other territories.

The matter was discussed at that time and, in view of the arrangements you had on the way with Du Pont, approved.

In this connection, it should be remembered that I.C.I. is not licensed under any of our groups' Titanium patents but has only the 17% interest in the B.T.P. and its technical organisation is by far not so close to B.T.P.'s Titanium manufacture as the I.G. Farbenindustrie's organisation is to Titangesellschaft.

With kindest regards,

Yours very truly,

G. Jebsen.

Exhibit 374

Letterhead of

THE GLIDDEN COMPANY

April 18, 1936
(Dict. 4-17)

Mr. W. C. Beschorman, Vice President,
National Lead Company
111 Broadway,
New York, N. Y.

Dear Mr. Beschorman:

I am sorry I found you away when in New York a few days ago.

Mr. Joyce mentioned to me a conversation you had with him recently regarding the reported sales position of the American Zirconium Corporation representative concerning titanium prices when soliciting business from Endicott-Johnson. I have looked into this and shall speak to you about it at the first opportunity.

With kind regards, I am

Very truly yours,

P. E. SPRAGUE

PES:Q

Exhibit 375

May 7, 1936.

Mr. Adrian D. Joyce, President
The Glidden Company
Cleveland, Ohio.

Dear Mr. Joyce:

My attention has been called to the fact that the Harshaw Chemical Company are selling Rex Products Company, Pittsburgh, Pennsylvania, Titanium dioxide, enamel grade, for paint purposes at 16½¢ FOB Pittsburgh. Further that you are selling the Harshaw Chemical Company.

It has always been the policy of the Titanium industry to refuse to sell any off-grade Titanium dioxide or enamel grade, to anybody for paint purposes. In other words, nothing but the first quality product has been sold to paint people.

We trust that you will arrange with the Harshaw people to stop the sale by them of off-grade products to the paint industry.

Kindly let me hear from you.

Yours very truly,

W. C. Beschorman
Executive Vice President.

Exhibit 375

Letterhead of

THE GLIDDEN COMPANY

1963 Union Trust Building

Cleveland, Ohio.
May 8, 1936

Mr. W. C. Beschorman
Executive Vice President
National Lead Company
111 Broadway
New York, N. Y.

Dear Sir:

Your letter of the 7th has been received during Mr. Joyce's absence on a business trip in Europe. We are investigating the matter to which you refer and will have the information for Mr. Joyce upon his return to the office, which will be about May 20.

Thanking you for your letter, we are

Yours very truly,

G. C. Vannatta
Secretary to the President

Exhibit 376

COPY

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
(INCORPORATED)
WILMINGTON, DELAWARE

Fabrics & Finishes Department

November 12, 1937

C. H. RUPPRECHT, GENERAL MANAGER
KREBS PIGMENTS DEPARTMENT

Mr. Adrian Joyce telephoned me from Cleveland this afternoon about titanium dioxide.

He says they have been making 3000 tons for 1935-36-37 and next year (1938) are going over to 6000 tons. He says to make the switch they will be practically closed down in January and February, which will preclude their making their 6000 tons next year.

He says they have already made to-date in this year their full quota of 3000 tons and ask permission to run full for the balance of this year in order to have something to ship in January and February when they are shut down.

The net of this is that they want permission to lump 1937-38 for a grand total of 9000 tons, making more than 3000 tons this year and less than 6000 tons next year.

I promptly told him I was not even remotely connected with the pigment business, but would be glad to give you the message when you returned here next week, and that he could expect to hear from you.

WM. RICHTER.

WR:s

Exhibit 377

COPY

Blind copies to:

Messrs. S. L. Abrams, Legal Dept.
C. H. Lyman, Office

DU PONT
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

KREBS PIGMENTS DEPARTMENT
REGISTERED MAIL

November 18, 1937

CONFIDENTIAL

Adrian D. Joyce, President,
American Zirconium Corporation,
1396 Union Trust Building,
Cleveland, Ohio.

Dear Mr. Joyce:—

Under Article I (b) of our agreement of January 1, 1935 the maximum quantities of titanium dioxide which American Zirconium Corporation is licensed to make under our patents during the years 1937 and 1938 are 3,000 tons and 6,000 tons, respectively. In our telephone conversation of today you explained that contemplated expansion will necessitate the shutting down of your plant during part of next year, with the result that the quantity so produced in 1938 will be less than 6,000 tons. In order that you may build up a stock to carry you over this shut-down period, you have requested the right to produce titanium dioxide under our patents in excess of 3,000 tons during the cur-

rent year, the amount of such excess to be equalized by a corresponding reduction in the quantity which you are licensed to produce in 1938.

In view of the special circumstances explained by you, we are agreeable to such a modification of the contract. Accordingly, the calendar years 1937 and 1938 will be treated as one period and during that period you are hereby licensed to produce under the contract an aggregate quantity not to exceed 9,000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of those years.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions, and we must ask that in future you strictly adhere to the maximum quantities specified in the contract.

Please indicate your acceptance of this amendment of our contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted November , 1937
American Zirconium Corporation
By (Signed) Adrian D. Joyce
President

Exhibit 378

SJH:HS. Paris, 2th January 1938.

I. D. Hagar Esq.,
Titanium Pigment Corporation,
114 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Hagar:

RE: OFFERS IN SWEDEN OF OFF-COLOURED TiO2.

Titan Co. A/S have lately on several occasions met offers of TiO2 in Sweden from Witco Limited, London. This TiO2 is offered at £60/0/0 per 1000 kgs. net, C. I. F. Scandinavian harbours, in casks of 250 kgs. each, per 1-ton lots.—This price is about £9/0/0 below the lowest price of "KRONOS" TiO2 in Sweden.

Titan Co. A/S have recently obtained a sample with the following characteristics:

TiO2 content	97.5—
Tinting strength (Reynold's)	1030
Colour, paste	13¼ dirty orange.

Having in mind previous correspondence with you about off-coloured TiO2 pigment, it occurs to us that these offers in Sweden may relate to such an off-coloured grade similar to your ceramic TiO2.

We have communicated regarding the matter with B. T. P., who informs us that they are not certain that any connection exists between Witco and the Glidden Company apart from the fact that about eighteen months ago Witco made a special point of putting a Titanated Lithopone on the British market, which B. T. P. understood was manufactured by the Glidden Company.

Exhibit 378

If this assumption is right, we wonder if the TiO2 now offered by Witco does not also originate with the Glidden Company, in which case the export from America is contradictory to your agreement with the Glidden Company.

As the offers of off-coloured pigment are rather disturbing in our markets, we should highly appreciate it if you would kindly go into this matter and see what can be done. We realize of course the necessity of quoting low prices, if off-coloured pigment is to be gotten rid of, but we wonder if its sale might be limited to consumers who would not make a business of reselling abroad.

Thanking you in advance for your cooperation, we wish to take the opportunity to express the I. G.'s as well as our own special appreciation for the way you have investigated the case of the Butcher Company of Los Angeles. The content of your letters of Dec. 16th and 28th was transmitted to Francfort, who will communicate again with their representative in Hong Kong.

Very truly Yours,

TITAN COMPANY INC.
S. J. HENRIKSSON

Copy:

Mr. Beschorman,
Titan Co. A/S.

Exhibit 379

Letterhead of

TITANIUM PIGMENT CORPORATION

Mr. W. C. Beschorman
Executive Vice-President
National Lead Company
111 Broadway
New York, N. Y.

February 25, 1938.

Dear Mr. Beschorman:

Under date of January 12, Mr. Henrikssen of the Titan Company, Inc., wrote to me, with a copy to yourself, regarding the offer in Sweden of off-colored titanium oxide by Witco, Ltd., London, at £60/0/0 for 1,000 kilograms net c.i.f. Scandinavian Harbors in one ton lots; this price being about £0/0/0 below the lowest price of Kronos TiO_2 in Sweden. I have estimated the offer by Witco at approximately 13-6/10 cents a pound on the basis of exchange effective in late January as against 15-65/100 cents a pound for Kronos.

You will recall that I discussed this matter briefly with you before you departed on your trip, and you requested me to bring the matter to your attention in a memo after your return in order that you might take it up with Mr. Joyce at the first opportunity.

You are probably aware of the fact that Witco, Ltd., is the English Branch of Wishnick-Tumpeer, whose main offices are in New York, and who act as selling agents for Glidden's lithopone and colors, as well as their titanium oxide.

Exhibit 379

In addition to this, I am informed through Mr. Everett Boughton, Vice-President and Sales Manager of R. T. Vanderbilt Company, that Wishnick-Tumpeer entered into a contract with A. G. Spaulding & Bros. Company, Chicopee Falls, Mass., wherein they agreed to supply less than carload quantities of titanium oxide at the carload price when combined with other materials, presumably colors and lithopone, to make up carload shipments. This is a point which ought to be taken up promptly and vigorously with Mr. Joyce. If there is anything that you wish me to do in this connection, please let me know.

Yours very truly,

TITANIUM PIGMENT CORPORATION

I. D. HAGAR
General Sales Manager

IDH:ELB

Exhibit 380

March 1, 1938.

Mr. I. D. Hagar, General Sales Manager
Titanium Pigment Corporation
111 Broadway, New York, N. Y.

Dear Mr. Hagar:

Replying to yours of the 25th I am enclosing you copy of letter written Mr. Joyce today.

Very truly yours,

Executive Vice President.

Exhibit 380

March 1, 1938.

Mr. Adrian D. Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

We are in receipt of a complaint from our European associates that Witco, Ltd. London, are offering off-colored titanium oxide in Sweden at considerably below the local market.

We understand that Witco, Ltd. is the English Branch of Wishnick-Tumpeer, of this City, who are the selling agents for your lithopone and colors and titanium oxide for the Zirconium Company. Evidently they have made offers through their London Company for the sale of pure titanium dioxide; you will note from the License Agreement between the Zirconium Company, Glidden Company and Metal & Thermit on one side and National Lead Company on the other that this is not permitted.

Kindly let me hear from you regarding this matter.

Very truly yours,

W. C. BESCHORMAN
Executive Vice President.

Exhibit 381

Letterhead of

THE GLIDDEN COMPANY

March 4, 1938

Mr. W. C. Beschorman,
Executive Vice President,
National Lead Company
111 Broadway
New York, N. Y

Re: Witco Ltd. Sales of Titanium Dioxide

Dear Mr. Beschorman:

This will acknowledge your letter of March 1, addressed to Mr. Joyce who is at present in Honolulu.

I am pleased to advise that no off-colored or standard Zopaque is being handled by Witco nor any other selling organization outside of this country. There has been no deviation from the terms of the license agreement referred to.

With kind personal regards, I am

Very truly yours,

P. E. SPRAGUE

PES:Q

Exhibit 381

March 8, 1938.

Mr. P. E. Sprague, Vice President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio.

Dear Mr. Sprague:

Thank you for yours of the 4th.

I am very glad to have your assurance that the report of offerings by the Witco Company are not of your material.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 382

COPY

Letterhead of
NATIONAL LEAD CO.

June 16, 1939

Dr. G. Jebsen
Societe Industrielle du Titane
26, Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letter of June 1st and regret to learn that you have had a cold and grippe. I trust you have fully recovered by now and are feeling quite yourself again.

I am glad to note that the titanium business is going so well in England, and am glad to report that it has been very strong with us. May was our largest month on record.

We had a pleasant visit from Mr. Stopford who must now be nearing his home.

Mr. Kaegebehn I presume is now with you and I am sure the information gathered on his trip will be well worthwhile.

I think I met some of the Kuhlmann people while in Paris. I would be inclined to agree with you that the time had not yet arrived when a factory could justify itself in France.

At a meeting yesterday, Mr. Jewett, President of The Glidden Company, asked me if we had any connection with the Italian titanium company. He said he was sailing the last of July and expected to see them while abroad. I wonder what he has in mind. You know The Glidden Company

has a license from us to produce up to 6,000 tons until 1941; then they step up to 9,000 tons which they are preparing their factory to turn out when the time arrives.

I note what you have to say about Dr. Kühne taking over other jobs, about which I would like to write him but think it best I do not as one never knows how a letter will be interpreted going into Germany. He will certainly have his hands full with the extra work.

I had thought some that I might go abroad the end of August so as to spend a little time with you in September, but I would have to be back here by the time of our September Directors' meeting on the 26th so may not be able to get away, but will let you know as soon as my plans are definite.

If your plans are definite, would like to know what they are as it may be I will go to the Pacific Coast late in October, returning by the middle of November, and would like to make my plans coincide with yours.

With best personal regards,

Sincerely,

F. W. ROCKWELL

President

P. S. Have heard nothing from Mr. Brindley for some months. Is there anything interesting in developments along the line of disposing of Wilhelmsburg?

F. W. R.

Exhibit 383

Letterhead of

THE GLIDDEN COMPANY

June 30, 1939

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

At the last Directors' Meeting at New York we discussed somewhat the Washburn attack, and I advised you at the time that we would like to secure permission to witness the operation of the Washburn attack. Your Mr. Garesché and others have been very cooperative with us, however, we have not been able to personally inspect the equipment in operation. You kindly asked me to write you about this.

I understand the next Directors' Meeting of the American Zirconium Corporation will be held in Baltimore, and I hope to have the pleasure of showing you through our titanium oxide unit.

Appreciating very much your cooperation in this matter and with kind personal regards, I am

Very truly yours,

W. J. O'Brien
Vice President.

WJO'B-B

Exhibit 384

Letterhead of

THE GLIDDEN COMPANY

July 26, 1939

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

On June 30 I wrote you regarding the possibility of our inspecting the Washburn attack at your New Jersey plant. We discussed this at the last Directors' Meeting of the American Zirconium Corporation, and you advised me that you would take care of the matter.

We are quite anxious to see this Washburn attack in actual operation as we are very much concerned over the fume nuisance created by this operation and learn methods for taking care of same. I would appreciate very much your arranging an inspection of this operation.

Thanking you for your cooperation in the matter, I am

Very truly yours,

W. J. O'BRIEN
Vice President.

WJO'B-B

Exhibit 385

July 27, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

I am in receipt of your letters of June 30th and July 26th, and will reply to them early next week when Mr. Garesché returns from vacation.

Regretting I have been unable to give you an earlier reply, I remain

Sincerely,

President.

Exhibit 386

(Copy)

NATIONAL LEAD CO.
111 Broadway
New York

August 1, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Building
Cleveland, Ohio

Dear Mr. O'Brien:

Referring to the matter of your inspecting the Washburn attack in actual operation at one of our plants, I have to tell you that it would be contrary to our cross-licensing agreements.

I would like to suggest that after you have your installation made, if you would like us to send a man to your plant for a day or two to run a few attacks I would be glad to make such an arrangement, and will await your wishes in the matter.

Yours very truly,

(Signed) Fletcher W. Rockwell
President

Exhibit 387

Letterhead of

THE GLIDDEN COMPANY

August 16, 1939.

Mr. Fletcher W. Rockwell, President,
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Rockwell:

I wish to acknowledge your letter of August 1 regarding my request for an inspection of the Washburn attack in actual operation at one of your plants. I am very sorry indeed to hear from you that you would not be able to grant this request advising that it is contrary to your cross-licensing agreements.

It was my understanding that the National Lead Company owned the patents covering the Washburn attack and that these patents are listed in the agreement between the American Zirconium Corporation and the Titanium Pigment Company, Inc. If these are the facts, I am therefore at a loss to understand your position on the matter.

Your attention is particularly called to Article 6 on page 7 in the agreement between the Titanium Pigment Company, Inc., and the American Zirconium Corporation, where each party agrees, etc., to do certain things. In view of my lack of understanding as to the workability of this agreement, particularly Article 6 on page 7. I believe that this situation should be clarified in a general discussion at our next Directors' meeting. I am sending a copy of this letter to Dr. Hirschland and to Mr. Joyce so that they

will be advised that this matter will be brought up for discussion.

Thanking you for your cooperation in this matter and with kind regards, I am,

Very truly yours,

W. J. O'BRIEN
Vice President.

WJO'B-B

Exhibit 388

Mr. W. J. O'Brien's Request to Inspect Washburn Attack
August 21st, 1939
Mr. C. F. Garesché
Mr. C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:

Article VI. of the contract of May 6th, 1935 between the Titanium Pigment Company, Inc. and the American Zirconium Corporation, referred to in Mr. O'Brien's letter of August 16, 1939, reads as follows:

> VI. Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field", since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof."

Article VI. does not specifically provide for plant inspections by representatives of the contracting parties. It does, however, carry the implication that, broadly construed, such visits might be permitted under such contract if such visits were necessary to impart to the other "full and accurate information in detail as to knowledge obtained" within the Licensed Field where such knowledge can be imparted with-

Exhibit 388

out breach of prior obligations. This question appears to be one of a narrow, as opposed to a liberal construction of the language and spirit of the agreement. Since this agreement was concluded, neither party has furnished the other the semi-annual reports which are specifically provided for, and should we in this case stand upon a literal interpretation that a visit to our plant is not included in the scope of this clause, the American Zirconium Corp. would be equally within its rights to demand from us semi-annual reports as to our progress within the Licensed Field, which by definition in Clause I. is a very broad field. You will notice that there is no qualification as to what knowledge shall be exchanged according to Article VI., but that it is described as "full and accurate information in detail". This would presumably cover not only progress within the plant, but also research results, patent proposals, etc.

Mr. O'Brien is correct in stating that we own the patents covering the Washburn attack. Furthe more, the unique design and technique of operation of the Washburn tank is our development. We are free to impart knowledge of this phase of our process without breach of any prior obligations.

In this connection I may recall to you that the American Zirconium Corporation have taken a very broad view with respect to their rights in the Verduin interference matter and have waived their right under the fluoride claims of the Plechner-Hixson patent. It is, therefore, possible that they have a right to expect from us a liberal attitude in another direction.

I trust this gives you the information you desire, and that my gratuitous comments are not amiss.

Yours very truly,

CFK:JL

Exhibit 389

Letterhead of

NATIONAL LEAD COMPANY

August 22, 1939

Mr. F. W. Rockwell, President
National Lead Company,
Building

Dear Mr. Rockwell:

I am returning herewith Mr. O'Brien's letter to you of August 16th.

I had Mr. Kaegebehn extract Clause VI. which I quote as follows:

> "Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "Licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same; *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof".

This is the article to which Mr. O'Brien refers and upon reading it you will note that there is no obligation on our part to permit their men to visit and inspect our plant

or equipment. The only obligation is to impart semi-annually "full and accurate information in detail—and to permit the other party to apply and use the same—provided, however, that neither party shall be obligated hereunder to impart or otherwise disclose—any knowledge, information, method, process or apparatus acquired by it from any third party—pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof."

We have apparatus and process in operation at our plant which we have no right to impart to American Zirconium, and we feel that their request to permit them to inspect our plant is beyond their rights under the agreement.

We have given them detailed blueprints showing the construction of our Washburn tank and have given them detailed instructions regarding its operation. This is really as far as we need to have gone. However, we have already offered to lend them an operator to show them how to work it when their equipment is ready to start. We have already gone beyond our obligations in the contract, but not to the extent that we have gone contrary to our prior obligations to others. If we permit inspection of the equipment in our plant, we feel we would be violating our prior obligations.

Yours very truly,

C. F. GARESCHÉ.
Manager

Exhibit 390

COPY

September 15, 1939

Mr. Lammot duPont, President
E. I. duPont de Nemours & Company
Wilmington, Delaware

Dear Mr. duPont:

One of our associated companies, the American Zirconium Corporation, is manufacturing Titanium Dioxide under an arrangement with the Krebs Pigment and Color Corporation, a subsidiary of your company. Under this arrangement the American Zirconium Corporation pays a royalty based on the total quantity of Titanium Dioxide made in each calendar year and the American Zirconium Corporation is restricted to 3,000 tons per annum from 1935 to 1937 inclusive, 6000 tons per annum from 1938 to 1943 inclusive and thereafter 9000 tons per annum.

I find that due to war conditions and the generally increased use of Titanium Dioxide in industry that we are handicapped by being held down to 6000 tons per annum until the close of 1943. I am writing to ask if your company will be willing to permit us to increase our production to 9000 tons per year with the beginning of 1940. It is my understanding that licenses are being granted to other manufacturers without limitation as to quantities to be produced and, therefore, I hope you will give favorable consideration to the matter of increasing the allotment of the American Zirconium Corporation.

Thanking you for giving this your careful consideration and with my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:G

Exhibit 391

DU PONT
E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

September 19, 1939

MR. C. H. RUPPRECHT:

The attached speaks for itself. I am somewhat at a loss to understand why Mr. Joyce takes this up with me—apparently without having taken it up with you first, but perhaps this is due to the fact that I knew Mr. Joyce personally when he was with the Sherwin-Williams Company years ago. Presumably, I should reply to Mr. Joyce.

Will you advise me what should be said? Perhaps I should answer promptly, and say that I had turned the matter over to you.

s/ L. DU PONT
President.

LduP/MD

Exhibit 392

[Attached to following letter]

9/20/39

Mr. Garesche

For your blue pencil FWR
Think it is good—CFG

September 20, 1939

Mr. W. J. O'Brien, Vice President
The Glidden Company
1396 Union Commerce Bldg.
Cleveland, Ohio

Dear Mr. O'Brien:

In reply to your letter of August 16th in which you say you think the matter should be discussed at the next Board meeting of the American Zirconium Corporation:

I have no objection to that being done but if the matter is to be discussed intelligently, I would like to have our people present who are most familiar with all the agreements in connection with the Titanium patents and licenses.

If it would be convenient for you, Mr. Joyce or any other of your people who wish to come to our office before or after the Zirconium meeting, I would be very glad to arrange for our people to be present, and I think it would be a better place to discuss the matter than at the Board meeting.

If you will let me know what your wishes are, I will be glad to plan accordingly.

Yours very truly,

President

Exhibit 393

COPY

September 20, 1939

MR. LAMMOT DU PONT, PRESIDENT:

Replying to your letter of September 19th, I am returning Mr. Joyce's letter of September 15th, and am likewise at a loss to understand why he should have sent it to you.

I suggest, and consider it definitely desirable, that you acknowledge this letter and state that the matter is being turned over to me.

All of the negotiations on the American Zirconium Corporation license were conducted by Mr. Joyce and myself, and there have been occasions since then to talk about certain phases of it.

There is no justification for making any change, and as far as we are concerned the statement he makes in the last part of his second paragraph is erroneous.

I regret that he bothers you with this, and if you will turn it over to me I will follow it through with him.

C. H. RUPPRECHT

CHR:s.
Encl.

Exhibit 394

E. I. Du Pont de Nemours & Company
Wilmington, Delaware.

September 21, 1939

Mr. Adrian Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Your letter of September 15th, in regard to the arrangement between the American Zirconium Corporation and our Krebs Pigment and Color Corporation, was duly received.

Not being familiar with the details of this matter, it is necessary for me to refer it to our Krebs Pigment Department, which, as you know, is in charge of Mr. Rupprecht. I trust that it may be possible to adjust the matter to your satisfaction.

Yours sincerely,

L. DU PONT (signed)
President.

LduP:MD

Exhibit 395

COPY

September 25, 1939.

Mr. Adrian Joyce, President
The Glidden Company
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Mr. Lammot du Pont has submitted your letter of September 15th to me for attention, as all pigment activities are centralized in this department.

We have given your request careful and serious consideration and regret that we believe that no change should be made at this time in the tonnage provisions of your license.

With respect to the last sentence in the second paragraph of your letter, it is obvious that you have been misinformed as to the terms of licenses we are granting to other manufacturers under our Titanium Patents.

Please be assured that I shall be very glad to meet you at any time to discuss the subject further, if you so desire.

Meanwhile, with kindest regards, I am

Yours very truly,

C. H. RUPPRECHT (Signed)
C. H. RUPPRECHT, GENERAL MANAGER

CHR:DD

Exhibit 396

Letterhead of

THE GLIDDEN COMPANY

September 25, 1939

Mr. Fletcher Rockwell, President
National Lead Company
111 Broadway
New York City

Dear Mr. Rockwell:

Mr. O'Brien has been telling me of his correspondence with you regarding matters pertaining to Titanium Dioxide. I think it would be well if we could have an opportunity of discussing these matters with you prior to the holding of the Directors' Meeting of the American Zirconium Corporation on October 4. Accordingly, Mr. O'Brien and I will plan on coming to New York on October 3. If you will kindly write me stating at what hour you can see us for a discussion of these matters, we can arrange accordingly.

Looking forward with pleasure to seeing you, and with my personal regards, I am

Yours truly,

ADRIAN D. JOYCE
President

ADJ-V

Exhibit 397

COPY

October 13, 1939

Mr. C. H. Rupprecht
Krebs Pigment & Chemical Division
E. I. duPont de Nemours & Company
Wilmington, Delaware

Dear Mr. Rupprecht:

Concerning the matter we discussed when we were together in New York, I will appreciate it if you will let me hear from you about this as soon as you have had time to consider it in all its aspects. I am hopeful that this subject can be dealt with in a way that will be mutually satisfactory.

With my personal regards, I am

Yours truly,

ADRIAN D. JOYCE (Signed)
President.

ADJ-V

Exhibit 398

E. I. duPont de Nemours & Company
Wilmington, Delaware.

October 23, 1939.

Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:

Having been away from the office a good deal of last week, was delayed in replying to your letter of October 13th.

The matter we discussed in New York concerning license granted to American Zirconium Corporation has been very carefully considered, and I regret to say that I cannot see any good reason for changing the decision as expressed to you in my letter of September 25th and again at our interview.

Am sorry that we are unable to meet your wishes in this respect, and remain, with personal regards

Very truly yours,

C. H. RUPPRECHT (Signed)
General Manager

CHR:S

Exhibit 399

COPY

October 26, 1939.

Mr C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. duPont de Nemours & Company, Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

I am in receipt of your letter of October 23 and very much regret that you feel you are unable to meet our wishes in respect to increasing our quota of titanium oxide beginning with January 1, 1940.

In your letter you state that you can see no good reason for changing your decision. I was under the impression that I had explained to you quite carefully that with the limited production we now have, particularly in view of the cost of added safety requirements demanded by the City of Baltimore in connection with our operations, that it is extremely difficult to make any profit on the limited tonnage of titanium dioxide we are permitted to manufacture.

With the added expense due to the Wage and Hours Act and the increased cost of selling, unless we can increase our volume of production we are faced with definite losses. When you consider that we have an investment in fixed assets of $1,000,000 in our plant and that we are employing a large number of laborers, and that in the event we cannot operate the plant profitably we will suffer a loss not only of our investment but also of our organization, and our workers will be deprived of the means of earning a livelihood; on the other hand, if we are permitted to increase

our production to 9000 tons, we will immediately expend a considerable additional amount for additional facilities and will not only be able to furnish employment to more workers in our manufacturing operations, but during our building operations we will employ a good many men who are now unemployed. It seems to me that the duPont Company should be interested in the same way as our company and others are interested in trying to reduce unemployment and endeavoring in every way possible to cooperate for a return of prosperity.

If we could be permitted to increase our production to 9000 tons it would not only put us on a profitable basis but it would permit us to take care of our customers and of the requirements of The Glidden Company and its subsidiaries. At the present time we are unable to supply our customers with their full requirements and at the same time take care of the requirements of our affiliated organizations. I find too that we are unable to purchase the finished product from your company because of your inability to supply additional quantities. I also learn that this is true of the National Lead Company's subsidiary, the Titanium Pigments Company.

If there is some good reason with which I am not familiar, why you cannot permit us to increase our quota on January 1, 1940, will it be satisfactory to you for us to increase our quota under our license agreement on June 1, 1940? Surely the profit we pay you as royalty will equal your manufacturing profit because this royalty is net to you. We have always paid the royalty promptly and would continue to do so, and inasmuch as your permission to manufacture an additional quota will permit us to per-

form a definite service in supplying our customers, I sincerely hope you will reconsider your decision.

There are still some other good reasons which I could give you in a personal conversation which I think would have some bearing on your decision, and I will appreciate it if you will again consider the matter in the light of what I have written. If for some reason you prefer a later date than June 1, 1940, then we could possibly adjust our plans to September 1, 1940 but we would very much prefer the date of June 1st.

I will anxiously await your decision.

Yours truly,

ADRIAN D. JOYCE (Signed)
President

ADJ:V

Exhibit 400

COPY

E. I. duPont de Nemours & Company
Wilmington, Delaware

November 1, 1939

Adrian D. Joyce, President
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:—

I have your letter of October 26th and regret that after considering the various reasons you offer, which are approximately those discussed in our last conversation, we still cannot see any justification for changing the terms of our original license to you.

All of us are faced with increased costs beyond our control these days, and at your present tonnage we do not feel that there is any question of cessation of operations and consequent unemployment. Incidentally, I know of no organization anywhere which has done more to extend employment or which has endeavored more to promote prosperity in our country that our own Company and I feel it definitely unfair to suggest that we are limiting such progress because of our maintaining that the terms of the license agreement, entered into in all good faith, should be continued.

A long term agreement such as this one should not be modified or changed repeatedly because of what may be temporary conditions, and I feel very certain that present inflated demands, not alone for titanium products but prac-

tically all materials, are of a temporary nature and will not continue over any period of time.

Incidentally, I would bring to your attention a fact that surprised me, in that you are producing an amount of titanium dioxide considerably short of the tonnage authorized by your license. Your royalty payments have been on the following basis for the first three quarters of this year:

1st Quarter	1245.925	tons
2nd "	1345.800	"
3rd "	1081.737	"
Total	3673.462	"

Assuming an average quarterly basis against 6000 tons a year, you would operate at 1500 tons a quarter. There is a deficiency of 827 tons at this rate, which you could have produced over this period, or 2327 tons you can produce during the last quarter to reach the 6000 ton annual figure. This is a considerable additional tonnage which you would have available for your trade.

Of course, I shall be glad to discuss this further at a mutually convenient time, but under conditions as above, I continue to feel that any modification in our license is not justified.

With kindest regards, I remain

Yours very truly,

C. H. RUPPRECHT (Signed)
GENERAL MANAGER

CHR:S

Exhibit 401

COPY

November 2, 1939

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Division
E. I. du Pont de Nemours & Co., Inc.
Wilmington, Delaware

Dear Mr. Rupprecht:

I have your letter of November 1 and I am very glad that you have been giving consideration to the various reasons I offered in my letter of October 26. Apparently these reasons were not sufficiently convincing to have you alter your decision. I hope you will give me an opportunity of meeting you and talking these matters over because I am sure that if we can get together I can show you that we are confronted with a very serious situation.

You touch upon a very vital point in the fourth paragraph of your letter when you bring to my attention that we are producing an amount of titanium dioxide considerably short of the tonnage authorized by our license.

In this connection I would call your attention to the fact that when we made the long term agreement our company had had no experience in the manufacture of titanium dioxide and therefore could not know at what points manufacturing could be made profitable and compatible with sales. We now know that you cannot arbitrarily fix upon certain arbitrary tonnage amounts and build plants that will work out these arbitrary figures productively and profitably.

Exhibit 401

To illustrate that point, in order to produce 6,000 tons per annum, a manufacturing policy must be worked out which will take into consideration the usual hazards of the industry including breakdowns and unforeseen manufacturing difficulties, with the result that the capacity must be for a much greater tonnage. We now know that to produce 6,000 tons to the best possible advantage, we must have a maximum capacity of approximately 9000 tons. Naturally, because of the increased investment to build a 9000 ton unit, the company has hesitated to do this because at times a 9000 ton unit will "click" and actually produce at the rate of 9000 tons.

We are desirous of observing our contractual obligations and therefore come to you to ask that our minimum quantity be raised. I find that our company has paid the duPont Company approximately $27,000. for 1939, and over a period of years our royalty arrangement should prove to be very profitable to the duPont Company.

There are certain other matters that have a very important bearing on this subject, and inasmuch as I find it necessary for me to be in New York on Wednesday, November 8, I would like very much to arrange to meet you there at that time, at an hour that will suit your convenience, and discuss this subject a little more in detail. I do not want to try your patience but I do want to get all these matters before you because I am confident that it is your desire to be fair and just.

If the weather is good on Tuesday, November 7, I will fly down to New York arriving there about 5 P. M. so that if it would suit you better to see me in the evening of November 7 at the Biltmore Hotel, this could be arranged.

Exhibit 401

I will look forward to receiving a telegram from you if this appointment will meet your convenience. With my personal regards, I am

Yours truly,

ADRIAN D JOYCE (Signed)
President

ADJ:V

Exhibit 402

COPY

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE.

Nov. 9, 1939.

REGISTERED MAIL

CONFIDENTIAL

Adrian D. Joyce, President,
American Zirconium Corporation
1396 Union Trust Building
Cleveland, Ohio

Dear Mr. Joyce:—

This will confirm our conversation of yesterday, November 8th, in New York, relative to Article I, Paragraph (b), of our agreement of January 1, 1935, under which American Zirconium Corporation is licensed to manufacture certain quantities of titanium dioxide under our patents.

Inasmuch as it appears from your production to-date that you will fall short of 6,000 tons production authorized for the calendar year 1939, we are agreeable to changing the quantities specified for the two 12 months periods ending December 31, 1939 and December 31, 1940, to a total quantity of 12,000 tons over the two years, instead of 6,000 tons in each of these two years. This will enable you to carry over into next year any quantity short of 6,000 tons produced in the year ending December 31, 1939.

It is, of course, further understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 402

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. Rupprecht, (Signed)
GENERAL MANAGER.

CHR:S

Accepted, November 11, 1939.
American Zirconium Corporation
by Adrian D. Joyce (Signed)
President.

Exhibit 403

Letterhead of

AMERICAN ZIRCONIUM CORPORATION

May 8, 1941

Mr. Garesche
National Lead Company,
111 Broadway,
New York, N. Y.

Dear Mr. Garesche:

In talking with our patent attorney, Mr. Charles Oliver, he advises us there are some difficulties encountered in handling the exchange of information between our two companies relative to patent applications. In looking the agreement over I find that Article VI states:

> Each party hereto agrees, to the extent that its prior obligations to other licensors do not prevent, to cooperate with the other by imparting semi-annually to such other party full and accurate information in detail as to knowledge obtained by it in and applicable to the "licensed Field" since its last report hereunder, and to permit such other party to adopt, apply and use the same: *provided*, however, that neither party shall be obligated hereunder to impart or otherwise disclose to the other party, or to permit the other party to adopt, apply or use, any knowledge, information, method, process or apparatus acquired by it from any third party under or pursuant to an agreement which precludes it from so imparting or disclosing the same or permitting the use thereof.

Exhibit 403

I find further that we have been living up to this agreement in giving you copies of applications two months after filing, as called for in Article VIII. By receiving these applications at this early date you are fairly well informed as to what we are doing. However, I find that we have never received similar information from you, nor have we received a semi-annual report as to what work your laboratory has been doing in the licensed field.

Your company's failure to send this information has no doubt been an oversight, and we would very much appreciate receiving these reports at an early date.

Very truly yours,

W. J. O'BRIEN
Vice President

Exhibit 404

May 23, 1941

Mr. W. J. O'Brien, Vice President
American Zirconium Corporation,
6401 St. Helena Ave.,
St. Helena, Baltimore, Md.

Dear Mr. O'Brien:

Since receiving your letter of May 8, 1941, we have given the matter of exchange of technical information very careful consideration.

The purpose of specifying in Article VIII of the Agreement that you should send copies of your patent applications to us two months before filing is not in order to inform us of what you are doing, but is for the purpose of enabling us to forward the applications abroad to permit the filing of corresponding foreign applications as we may desire and as provided in Article VIII.

As far as I am able to ascertain, neither party to the agreement ever exchanged semi-annual reports covering its work within the Licensed Field. It appears that the reason for this was that we are so bound by prior obligations that it was virtually impossible to prepare such reports without including information which we had no right to give. The same problem exists today. Nevertheless, whenever we could, we have endeavored to inform you fully on whatever matters were of interest to you and which were strictly our own to give. For instance, you will recall that we furnished you blueprints and even the services of one of our engineers in connection with the installation of the Washburn tank. Another instance which might be mentioned is in connection with the use of the Micronizer, a development which is our

own and which we turned over to you with complete information concerning its use in processing titanium pigments.

We suggest as a way of meeting the obligations of Article VI that both companies prepare and submit semi-annual questionnaires to the other, covering points of particular interest to each party and that we exchange such questionnaires and answers. In this way we are sure all developments of particular interest practiced by both parties would be disclosed to the other.

We should be glad to have your comments.

Yours very truly,

Manager

cc Mr. Kaegebehn

Exhibit 405

NATIONAL LEAD COMPANY
111 Broadway
New York

Mr. Fletcher W. Rockwell
President
National Lead Company
Building

May 26, 1941

Dear Mr. Rockwell:

With reference to my memo of today concerning the American Zirconium Company, I beg to add that the agreement between American Zirconium Company and Titanium Pigment Company, Inc. (the National Lead Company) of May, 1935, contains a Clause XII, according to which neither of the parties shall have any right or power to assign the agreement or licenses in whole or in part, except to a successor to the entire business and good will of such party and then only with the consent in writing of the other party first had and obtained. (Exceptions are made for countries outside the United States of America, its territories and dependencies in view of the provisions for Titan Co. Inc. and our non-American associates).

Consequently, if continued unsatisfactory management should bring the company to liquidation, the National Lead Company is at liberty to discontinue the agreement, provided no moral obligations unknown to me are in the way.

As there has been considerable talk about the limitation of the American Zirconium's production to three, six, and nine thousand tons made through the license agreement with DuPont de Nemours, I have been trying to find infor-

mation concerning this, but without success. Mr. Garesche has verbally informed me that as far as he knows, these limitations are the following:

3000 tons of TiO_2 for the first three years
6000 " " " " " next " " "
9000 " " " " " following three years

As this limitation probably starts with the beginning of manufacturing operations in early 1936, I assume that there will be no limitation after January 1, 1945.

I understand further that there is no cooperation between the American Zirconium Company and the DuPont de Nemours Company.

In case of a disruption in the connections between the American Zirconium Company and the National Lead Company, the first mentioned will probably have to stand on its own feet. It seems too early yet to know whether it will be able to do so—it all depends upon what management is provided for.

Yours very truly,

G. JEBSEN
G. JEBSEN

GJ:RK

Exhibit 406

RE: American Zirconium Company—National Lead Company

The most important item in the relations between the National Lead Company and the American Zirconium Company, respectively, the Glidden Company, is the license agreement providing for exchange of licenses under patents—existing patents as well as future patents. This agreement lasts until the end of 1951. The agreement provides that it is not transferable except in the case of a transfer of the entire business of the American Zirconium Co. and in that case only with the National Lead Co.'s approval of the successor. When the National Lead Co. and Metal & Thermit Corp. sell their shares to the Glidden Co., this company becomes the owner of all the shares of the American Zirconium. The sale of the shares has been done because the cooperation between the companies has been unsatisfactory. For that reason it is logical that the National Lead Co. ceasing as a shareholder also wish to cease a cooperation as regards exchange of future licenses. Faced with such a proposal, Mr. Joyce will have to weigh in his mind the possibilities of the value of future licenses received from the National Lead Co. against the value of licenses which he grants. Normally, considering the organizations and the amount of money which the two companies spend on research work, it is to be expected that the National Lead Co. will produce considerably more technical developments than the American Zirconium-Glidden Co.

However, it happens sometimes that the research staff of a small organization has hit on a special development and overestimates the importance of this. In addition to this, Mr. Joyce's companies would be free to exploit these future

developments in South America and Canada—and abroad when the war is over. If Mr. Joyce, influenced by his research staff, has this opinion—well and good. If he has not, I do not think that any representative of the National Lead Co. will be able to influence him in this direction.

There is another aspect to the case which presumably must be in Mr. Joyce's mind, namely, the inconvenience and extra expenses involved by a continued operation of the American Zirconium Co. instead of a transfer of the whole business to the Glidden Co. According to Mr. Cole, the license agreement cannot be transferred without the National Lead Co.'s approval, even if the Glidden Co. has acquired all the shares of the American Zirconium Co.

The advantages of a dissolution of the American Zirconium weighed together with the advantages and disadvantages of losing future exchange of licenses with the National Lead Co. may be sufficient for Mr. Joyce to follow this course. However, he may wish to accomplish the transfer of the business to the Glidden Co. without losing the future exchange of licenses, in which case Mr. Joyce presumably first will see the deal regarding the shares being consummated without mentioning or taking up the question of the transfer of the business, respectively, the dissolution of the American Zirconium Co. The situation will, I believe, be particularly improved for Mr. Joyce if the share transaction as indicated by Mr. Rogers takes the form of a reconstruction dissolving the Zirconium Co. by exchange of shares of this company for Glidden shares to the purpose of saving taxes for the sellers. This seems to me to involve an acknowledgment and approval by the National Lead Co. of the Glidden Co. as successor.

If this idea has not been brought to the attention of Mr. Joyce, he may have in mind to dissolve the American

Zirconium Co. after having acquired all the shares and it seems to me that particularly if some time elapses during which the Zirconium Co. has operated under 100% ownership of the Glidden Co., it would be very difficult for the National Lead Co. to decline its approval of the Glidden Co. as successor.

Considering this situation, the course to follow by the National Lead Co. seems to me to be *now in connection with the sale of the shares* to inform Mr. Joyce (the Glidden Co.) that the National Lead Co. would like to see the license agreement terminated as regards future exchange of licenses on the grounds that the cooperation as partners or shareholders in the enterprise has been a failure and the license agreement was made in connection with the creation of that partnership. This will put Joyce on notice that the National Lead Co. is not willing to accept the Glidden Co. as successors to the American Zirconium Co. as regards the license agreement with the following two advantages:

a. It will put the National Lead Co. in a better position to deny its approval of a transfer of the license agreement to Glidden.

b. Joyce may be more inclined to agree to terminate the license agreement now.

Sept. 29, 1941

Exhibit 407

Mr. Beschorman

SOUTHERN MINERAL PRODUCTS CORPORATION,
120 Broadway,
New York.

APRIL 8th, 1935.

Mr. William F. Meredith, President
Titanium Pigment Co. Inc.
111 Broadway,
New York.

Dear Sir:—

This has reference to your two letters, dated February 13 and February 21, the first being addressed to Southern Mineral Products Corporation, Piney River, Va. and the second to 120 Broadway, New York, both of which have been acknowledged.

We also acknowledge your letter of March 27, addressed to this office.

Our operations with respect to Titanium Dioxide at Piney River are still on an experimental basis and we have not yet established any definite plan of procedure. In view of this situation, it would seem inadvisable to discuss any particular process steps or patents at this time.

We shall be glad, however, to know your ideas as to any general license arrangement and any basis for same which you may have in mind in case we should see the possibility in the future of adopting any steps in our process which may be covered by your patents.

Yours very truly,

(signed) A. A. COREY, Jr.
President.

Copy

Exhibit 408

April 10th, 1935.

Mr. A. A. Corey, Jr. President,
Southern Mineral Products Corporation,
120 Broadway,
New York, N. Y.

Dear Sir:—

Your letter of the 8th instant is at hand.

We have been informed that you have not only manufactured but sold titanium dioxide, and we believe you could not have done so without infringing one or more of our patents. Of course, if that is a fact, you are liable in damages, or we can begin action to enjoin you from continuing.

We must therefore ask you to discontinue the manufacture of titanium dioxide until license under our patents has been arranged or non-infringement thereof clearly established.

If you desire to take up the matter as to obtaining a license from us, we will be glad to meet you at any time.

Yours very truly,

TITANIUM PIGMENT CO. INC.

President.

WFM/MC

Exhibit 409

Southern Mineral Product Corp., New York, N. Y.

September 23, 1935

Mr. C. H. Rupprecht, President,
Krebs Pigment & Color Corp.,
Wilmington, Delaware.

Dear Mr. Rupprecht:

In line with the conversation had between yourself and the writer in our offices on Friday, the 20th, we will accept your offer, which you made subject to the approval of your Board, to purchase from us our entire stock of Titanium Dioxide consisting of approximately 903,425 pounds as per the list you submitted at a price of 10 cents per pound net, f.o.b. our Works, Piney River, Virginia, this material to be supplied to you in containers in which it is now packed.

It is our understanding that you will take the bulk of the material promptly. As to the remainder of such material we will be glad to store it for you at our Works at Piney River without charge for a period of three months. As per our understanding it will be satisfactory to us for you to make payments as shipments are made.

In consideration of this purchase by you we will not during the life of any patent or patents relating to the manufacture of Titanium Dioxide, now owned or controlled by you, manufacture any Titanium Dioxide by any process infringing any such patent or patents. No claim within your control shall be made against us for past infringement, if any, of such patents.

We further agree that if Southern Mineral Products Corporation shall resume the manufacture of Titanium Di-

oxide, representatives of Krebs Pigment & Color Corporation shall have the right to inspect operations from time to time in order to determine whether Southern Mineral Products Corporation is infringing such patents.

I enjoyed your visit very much and wish to thank you for your courtesy.

With kindest regards,

Very truly yours,

Vice President

WAM:H

Exhibit 410

Letterhead of

DORSEY & COLE

Mr. Charles F. Kaegebehn, September 30, 1936.
Titanium Pigment Co., Inc.,
P. O. Box 58,
South Amboy, N. J.

Re: Light Reflectance Control.

Dear Mr. Kaegebehn:

I am herewith enclosing a copy of my letter to Prof. Hardy in response to his letter of August 24th, incorporating a portion of your letter of September 25th.

What you have told me about the International Printing Ink Co. being about to enter the titanium pigment field is not only extremely interesting but has given me some thought. If there is any feature of the business having to do with color, such, for example, as is involved in the Washburn case, which we have just filed, or in the application of Du Pont's subsidiary which we had before us in preparing the Washburn case, or if analysis by light rays becomes of importance, I think the chances are about 100 to 1 that Goldthwaite by reason of his previous experience with Hardy in the automatic music field would retain Hardy as an expert in these fields. I know that Hardy is subject to be retained by industrial concerns, for my recollection is that he is under a yearly retainer by the General Electric Company, and I know that while we were working with him in the automatic music field he was very careful to make it clear that he could not do anything for Goldthwaite which

would conflict with the interest of the General Electric Company. I do not believe that Hardy is doing anything at all for Goldthwaite now in the automatic music field, for that matter, was turned over to the Wurlitzer people for commercial development.

It would certainly be wise for the Titanium Pigment Co. to consider seriously retaining Hardy for a nominal fee and possibly as a matter of gesture getting him to do a little work for them in connection with the new branch of their laboratory devoted to light analysis. We would thus have the jump on the International Printing Ink Co. when the time comes to force that company into a license in the event that any of the Titanium dioxide patents under which the Titanium Pigment Co. are licensed or to which they have title are infringed. I believe having Prof. Hardy on our side in such negotiations would have quite an influence on Goldthwaite, for he certainly has a high opinion of Hardy.

Yours truly,

FRANK C. COLE

FCC:J
Enclosure. 1.

Exhibit 411

October 2, 1936.

Letter No. 555.

Titan Company, Inc.,
c/o Mr. Andreas Ravnestad,
26 Rue de la Pépiniére,
Paris, 8e, France.

Attention: Dr. Gustav Jebsen
Re: General Patent Situation

Dear Sirs:

The International Printing Ink Corp. is a consolidation of a number of printing ink companies brought about by Dillon & Read, a large private banking house here, and having as its president du val R. Goldthwaite, a former member of the firm of Dillon & Read. Goldthwaite's policy is to reduce the manufacture of printing ink to a scientific perfection, to improve the manufacture in all particulars, so far as is possible, and to obtain patents on the new processes involved and the products resulting from the experimentation and development work undertaken by him.

A few years ago in pursuing this policy, The International Printing Corp. purchased the United Pigments and Color Co., having in mind to include in the development program the manufacture of suitable pigments, among them titanium dioxide.

The foregoing was told me by Goldthwaite himself. The following was told me by Mr. Kaegebein.

After the United Pigments and Color Co. was purchased by the International Printing Ink Corp. it took over a man by the name of Ryan who was formerly Director of Research for the Titanium Pigment Co., and also a Dr.

Exhibit 411

Cauenberg, who, I infer, was one of the engineers of Titanium Pigment Co., either in research or in production. United Pigments and Color Co. has purchased the plant of the Seven Minerals Product Co. at Piney River, Virginia, a plant, as I understand it, to be devoted to the manufacture of titanium dioxide pigment which pigment is to be placed on the market for general pigment purposes, in no way limited to the manufacture of printing ink.

The patents on the pigment to be put out by the Seven Minerals Product Co., Mr. Kaegebehn has learned, have been allowed, at least some of them, and are about to be issued, quite possibly in the names of Ryan or Cauenberg, or as joint patents of these two former employees of Titanium Pigment Co.

The last time that I talked with Mr. Goldthwaite, I should say two years ago anyway and possibly more, he told me it was his understanding that the titanium dioxide pigment field was open and that whatever patents there were of a fundamental nature were either expired or of no value. I told him that he was entirely mistaken in regard to this. He implied that the source of his information was an opinion on the part of Mr. Neave, a member of the firm of Fish, Richardson & Neave, which he had rendered for Du Pont, and which in an undisclosed manner had come to Goldthwaite's attention. At the time of this conversation with Goldthwaite, my recollection is that the patent situation between Krebs and the Titanium Pigment Co. had either just shortly been settled or was still in process of negotiation, and it is quite possible that Goldthwaite had obtained a distorted view of Neave's report which may very well have been rendered and considered from a stand-

point of material for use by Krebs in endeavoring to obtain the most advantageous position possible under the proposed licenses and sub-licenses from the Titanium Pigment Co.

The situation has elements of considerable interest and possible trouble, but until the patents of the International Printing Ink Corp.'s subsidiaries are issued, it would be very difficult for the Titanium Pigment Co. to ascertain just what processes were being employed by the Seven Minerals Product Co., and, of course, even when the patents do issue we have no assurance that the processes outlined in the patents are those actually being followed by the Seven Minerals Product Co. As soon as the product appears on the market, it will, of course, be subjected to the most careful examination by the Titanium Pigment Co. with a view of determining whether or not any of the Titanium Pigment Co. product patents under which it is licensed or which it owns are infringed. Of course, the patents to issue to the Seven Minerals Product Co. are also to be carefully examined with a view of determining whether or not there are any claims which should be copied in pending applications of the Titanium Pigment Co. if this be possible or whether new applications should be filed and the claims inserted therein for purposes of interference.

Taking over employees from a competitor who are skilled men and who bring with them inventions which are really owned by the competitor has been severely criticized in this Circuit, both in the Eastern District which includes Brooklyn, and in the Southern District which includes New York.

It is very unfortunate that the patent on Case T-18 expires next July, for I haven't the slightest doubt that the product to be put on the market by Seven Minerals Product

Exhibit 411

Co. will infringe that patent. At the last talk I had with Goldthwaite above referred to, he stated that great hiding power was very essential in pigments employed in the manufacture of ink and that the analysis of his own staff showed that the Krebs product had greater hiding power than the product of the Titanium Pigment Co. and that for that reason the International Printing Ink Corp. was purchasing the Krebs product. Since that time the Titanium Pigment Co.'s product has been vastly improved. In any event, Goldthwaite was quite emphatically warned by me that if his company went into the manufacture of titanium dioxide, he was bound to run into patent trouble and that he must not rely on the expiration of the early patents because of the fixed policy on the part of Titan Co. A/S and Titanium Pigment Co. of obtaining patents on all improvements and that many of these improvements were commercially essential in the manufacture of pigments.

Yours truly,

COLE

FCC:J

cc: CFKaegebehn, Esq.

Exhibit 412

FILE COPY

Blind copies to:
Mr. C. H. Biesterfeld—Patent Div.—Bldg.
Mr. J. P. Hancock " " "
Dr. J. E. Booge—Newport

November 19, 1936.

CONFIDENTIAL

J. Allegaert, President,
Virginia Chemical Company,
c/o United Color and Pigment Co.,
Newark, New Jersey

Dear Mr. Allegaert:—

Our attention has been drawn to the announcement of the purchase by Virginia Chemical Company of the titanium dioxide plant of Southern Mineral Products Company at Piney River, Virginia.

As it has been our Company's policy to advise the industry of our patent holdings in the titanium field, we are, therefore, attaching hereto such a list which may be of interest to your Company.

We will be glad to discuss our patent situation with your Patent and Technical people and to arrange for an appointment after you have had an opportunity to consider the matter.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 413

Letterhead of

UNITED COLOR AND PIGMENT COMPANY, INC.

November 24, 1936.

Carl H. Ruprecht, General Manager,
E. I. duPont deNemours & Company,
Krebs Pigments Division,
Wilmington, Del.

Dear Carl:

Thank you for your letter of the 19th which accompanied a list of your patents in the Titanium field. I appreciate your giving me this information.

We will promptly investigate the list and make sure that in our study of the existing patents we haven't overlooked any of yours.

With reference to your kind offer to discuss the patent situation with us, I will be very happy to communicate with you further.

With kind regards, I remain

Sincerely yours,

JOHN ALLEGAERT

JA/M

Exhibit 413

Checked *in red* by J. P. Hancock of Legal Dept. for corrections.

11/19/36

1,357,690	11/2/20	Coffelt O. T. Process for the Recovery of Titanium from its Ores
1,489,183	4/1/24	Weizmann and Blumenfeld Production of Titanic Acid
1,504,669	8/12/24	Blumenfeld J. Titanium Compound
1,504,670	8/12/24	Blumenfeld J. Titanium Compound
1,504,671	8/12/24	Blumenfeld J. Titanium Compound
Reissue 17,429	9/10/29	Blumenfeld J. Preparation of Titanium Hydroxide
Reissue 17,430	9/10/29	Blumenfeld J. Preparation of Titanium Hydroxide
1,600,772	9/21/26	O'Brien W. J. Lithopone & Process for Producing the Same
Reissue 16,956	5/8/28	Blumenfeld J. Titanium Pigment
1,600,773	9/21/26	O'Brien W. J. Lithophone & Process for Producing the Same
1,633,621	6/28/27	Blumenfeld J. Filtration of Solutions and the Like
1,639,423	8/16/27	Blumenfeld J. Preparation of Pigments and Paints
1,649,496	11/15/27	Specht N. Process for the Manufacture of Titanic Oxide
1,655,940	1/10/28	d'Ans J. et ál Process of Preparing Titanic Oxide from Titan Ores
1,707,248	4/2/29	Blumenfeld J. Process for the Manufacture of Titanium Oxi
1,707,257	4/2/29	de Rohden C. Production of Titanium Tetrachloride
1,709,999	4/23/29	O'Brien W. J. Method of Producing Lithophone
1,750,287	3/11/30	Specht N. Process of Producing Permanent Paints
Reissue 18,790	4/4/33	Mecklenburg W. Production of Titanium Dioxide

Exhibit 413

1,766,592	6/24/30	Blumenfeld J. Production of Composite Pigments Containing Titanium Dioxide
Reissue 18,854	5/30/33	Blumenfeld J. Production of Titanium Oxide
1,797,760	3/24/30	de Rohden C. Production of Titanium Compositions
1,827,691	10/13/31	Specht N. Process of Treating Ores of Titanium Containing Chromium & Recovering the Sulphuric Acid
1,832,666	11/17/31	Specht N. Process for the Manufacture of a Brown Pigment Containing Titanium from Sludge of Titanium
1,836,275	12/15/31	O'Brien W. J. Method of Producing Improved Lithopone
1,845,633	2/16/32	Specht N. Process for the Purification of Impure Dioxide of Titanium Containing in Particular Chromium
1,846,188	2/23/32	de Rohden C. Production of Titanium Pigments
1,851,487	3/29/32	Blumenfeld J. Preparation of Titanium Hydroxide
Reissue 19,594	5/28/35	Leuchs Process of Manufacturing Titanium Oxide Suitable for Use as a Pigment
1,864,504	6/21/32	O'Brien W. J. Composite Pigment
1,885,187	11/1/32	de Rohden C. Production of Titanium Pigments
1,885,921	11/1/32	Kubin C. Process for Reducing the Oil Absorption of Titanium Dioxide Pigment
1,885,934	11/1/32	Mayer M. Art of Producing Oxides of the Fourth Group Metals
1,892,693	1/3/33	Blumenfeld & Mayer Preparation of Titanium Pigments
1,899,572	2/28/33	Kubelka P. Method of Dissolving Titanium Tetrachloride in Aqueous Solvents
1,899,573	2/28/33	Kubelka P. Process of Preparing Clear Solutions of Titanium Chloride

Exhibit 413

1,899,574	2/28/33	Kubelka P. Process of Preparing Concentrated Clear S tions of Titanium Chloride
1,902,203	3/21/33	von Bichowsky Process of Preparing Titanium Dioxide
1,902,204	3/21/33	von Bichowsky Process of Producing Pigments Contai Titanium
1,915,393	6/27/33	von Bichowsky Method for Producing Titanium Sulph
1,922,816	8/15/33	McKinney R. M. Preparation of Stabilized Titanous Salt Solut
1,931,380	10/17/33	Haber and Kubelka Production of Titanium Dioxide from Titan Tetrachloride
1,931,381	10/17/33	Haber and Kubelka Production of Titanium Dioxide from Titan Tetrachloride
1,937,037	11/28/33	Hanahan M L Process of Making Titanium Oxide of Texture
1,975,339	10/2/34	von Bichowsky Method for Improving Pigments Containing T nium
2,026,862	1/7/36	Blumenfeld and Mayer Preparation of Titanium Pigments
2,031,750	2/25/36	von Bichowsky Method for Purifying Titanium Subo Materials
2,044,941	6/23/36	Hanahan Titanium Dioxide of Fine Texture
2,045,836	6/30/36	Coffelt Titanium Product and Method of Making Same
2,046,054	6/30/36	Booge Blended Pigment
2,047,208	7/14/36	Krchma Process of Reducing Titanium Sulphate Liq
2,049,504	8/4/36	Krchma Cyclic Process for Reducing Titanium Sulp Liquors

Exhibit 414

FILE COPY

March 1, 1937.

C. R. MUDGE, DIRECTOR
LEGAL DEPARTMENT

PROPOSED LICENSE—VIRGINIA CHEMICAL COMPANY
TITANIUM DIOXIDE PATENTS

Virginia Chemical Company, a 100% subsidiary of The International Printing Ink Corporation, has requested a license under our patents for the manufacture of pure titanium dioxide.

We are disposed to grant such license, restricting the same to patents as would be described in a schedule, and which would include only patents of the Krebs Pigments Department. In this way it would make certain that any possible use or application patents of other departments would not be involved.

It is planned to negotiate this license on the same basis as that which was executed with American Zirconium Corporation, under which Licensee would be limited as to the tonnage which could be produced in any calendar year over the life of the patents, and including a royalty of 2% of our published carload selling price.

In view of the fact that the license would cover only patents in the titanium dioxide field held by this department, it is felt that the matter will be of no interest to any other department. However, it is requested that the usual approval of other departments be secured.

C. H. RUPPRECHT.

CHR:S

Exhibit 415

Letterhead of

E. L. DU PONT DE NEMOURS & COMPANY

March 9, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Company,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—.

Enclosed herewith is a copy of proposed license under our patents in the Pure Titanium Dioxide field, and in accordance with telephone conversation today with your Mr. Sklarz I understand it will be agreeable to you to meet me at the Uptown Club in New York at one o'clock on Friday afternoon, March 12th, for further discussion.

I was very sorry to hear of your illness and hope you are recovering rapidly. In the event you feel you cannot keep the appointment for Friday, please let me know, or, if it would be more convenient for you under the circumstances, I could arrange to meet you in Newark at the same hour.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 416

Letterhead of

E. I. du Pont de Nemours & Company

Newport, Del.
March 11, 1937

CONFIDENTIAL

Mr. C. H. Rupprecht
Room 12408
Nemours Bldg.

Quality of Calcium Base Pigment from Virginia Chemical Co.

We have received two samples of calcium base titanium pigment from the Virginia Chemical Co. A quart jar was received on February 15th followed by a very small envelope sample at our conference of February 25th.

The results of our tests on these two samples will be shown in the table below. It will be noted that both color and strength are low and that the envelope sample represents no improvement over the previous larger sample. In my opinion this pigment is not salable in competition with Titanox-C and "Ti-Cal" due particularly to the low color.

Code	Date Rec'd.	T. S.	Color	O. A.	% TiO_2
T 122	2-15-37 Jar	185	12	(22.0)	29.8
T 2(561	2-25-37 Envelope	183	12	—	29.1
Ti Cal L O		200+	18	12	30
Ti Cal H O		200+	18	19	30

J E B
J. E. Booge
Technical Director

JEB:DEE

Exhibit 417

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

April 12, 1937

CONFIDENTIAL

John Allegaert, President
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

As per telephone conversation of this morning, am enclosing a revised copy of proposed license under our patents in the pure titanium dioxide field. An additional Article has been inserted, which becomes Article III.

I understand you will have had sufficient time to go over this by Friday of this week, and would like to get together with me at that time. I will call you on Thursday, April 15th, and make a definite time appointment for the 16th.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 418

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

CONFIDENTIAL

April 21, 1937.

John Allegaert; President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert,

As per our telephone conversation of this morning, relative to the proposed license under our patents in the pure titanium dioxide field, we are agreeable to certain of your suggestions and offer additional ones, as per the following:

Article II, paragraph (a)—It will be agreeable to change this paragraph in accordance with your suggestion to read as follows:

> "(a) Virginia shall pay to du Pont a royalty at the rate per pound specified in paragraph (b) of this Article on the total quantity of all titanium dioxide, including the titanium dioxide content of all compounds, mixtures and other products, produced by Virginia during each calendar year throughout the period of this agreement; subject, however, to the provisions of Article III hereof."

Article II, paragraph (b)—We are unable to consider your request that the words "on each and every pound of

titanium dioxide" be eliminated from this paragraph. While the elimination of this phrase would not change the meaning of the contract, we believe that it does serve to clarify the provisions of the Article as a whole.

Article III—We are suggesting that the paragraph as presented to you in our last draft remain unchanged and become paragraph (a) of this Article, to which will be added a paragraph (b) reading as follows:

> "(b) If du Pont does not notify Virginia in writing on or before that the absence of such infringement under said existing process has been determined to du Pont's satisfaction, Virginia may cancel this agreement ab initio by so notifying du Pont in writing within ten (10) days after said date."

Write one way or other

Article V will remain as is, except that the second sentence will be changed to read:

> "The termination of this license for any cause prior to its normal expiration (other than cancellation in accordance with the provisions of paragraph (b) of Article III) shall not affect the provisions of this Article or release or discharge Virginia from the admission and estoppel herein set forth."

Article VII will remain unchanged except that the following words will be added at the beginning of the paragraph:

> "Unless cancelled in accordance with the provisions of paragraph (b) of Article III", etc.

Exhibit 418

Article VIII—We are agreeable to your suggestion and will add the following words to the end of the paragraph:

> "except to a corporation into or with which Virginia shall be merged or consolidated, or which shall acquire all or substantially all of its assets."

Unless I hear from you to the contrary, will see you on Saturday morning, April 24th, at 10 o'clock, as arranged.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 419

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Copy: Mr. C. H. Biesterfeld

May 7, 1937.

MR. C. H. RUPPRECHT, GENERAL MANAGER,
KREBS PIGMENTS DEPARTMENT.

I enclose herewith two forms, complete except as to Schedule "A", to be submitted as alternatives to Virginia Chemical Corporation.

lestroyed & ewritten sent /aCHemCo /12/37

The first form permits Virginia to cancel the agreement if du Pont or the arbitrators fail to determine that Virginia's existing process does not infringe the patents enumerated. Upon such cancellation all admissions and estoppels become null and void.

Not sent out : remains ttached

The second form grants to Virginia the option to obtain a license in the form attached thereto. This method makes it unnecessary to include in the license itself any provisions for determination of the infringement question or any provisions for cancellation if Virginia is not satisfied with such determination.

These forms have been reviewed with Mr. Biesterfeld and are satisfactory to him.

S. L. ANDREAS

SLA:T

Exhibit 420

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

May 12, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

As mentioned to you on the telephone today, am enclosing herewith a copy of revised draft of proposed license under our patents in the pure titanium dioxide field.

I shall be very much disappointed if this agreement as now presented does not fully cover the several questions raised by you in our last discussion. The new Article III of this draft appears to me to adequately accomplish this.

I will expect to hear from you the beginning of next week with respect to a further conference.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 421

Memorandum of the conference of May 21st, 1937—between representatives of the National Lead Company and the Virginia Chemical Company.

Those present:

Mr. John Allegart—President—United Color & Pigment Co.

Mr. L. W. Ryan—Director of Research—National Pigments & Chemical Co.

Mr. R. W. Byerley—Attorney for United Color & Pigment Co.

Mr. Milton Zucker—Attorney for Interchemical Corporation.

Dr. G. Jebsen—Vice-President—Titan Company, Inc.

Mr. J. L. Turner—Director of Research—Titanium Division—National Lead Co.

Dr. W. W. Plechner—Assistant to Mr. Turner.

Mr. C. F. Kaegebehn—Manager—Patent Department—National Lead Co.

This meeting was called at the suggestion of Mr. Turner to discuss the technical questions arising from a possible infringement by the Virginia Chemical Company of National Lead Company patents relating to the manufacture of titanium dioxide pigments.

Exhibit 421

After opening the meeting, Mr. Ryan gave a summation of the process now in use by the Virginia Chemical Company who, he stated, is producing about one ton per day of titanium dioxide-calcium sulfate pigment. (Description as given by Mr. Ryan and transcribed from stenographic notes is attached hereto, marked "Appendix I."

Mr. Allegart then suggested that we point out to them which claims of our patents we consider would be infringed by such a process as described by Mr. Ryan. Mr. Kaegebehn replied that the process described by Mr. Ryan varied in many essential points from the process previously described by Mr. Ryan at the meeting of March 2nd, held in Mr. Beschorman's office and, consequently, a further study of this method would be necessary before any detailed discussion of infringement of our patents entered into it. Mr. Byerley expressed regrets that we should find this necessary, but Mr. Turner replied that he would prefer to inspect the plant of Virginia Chemical Company before giving an opinion in the matter. At this time there was no objection to representatives of National Lead Company visiting the plant of Virginia Chemical Company. Since no question of infringement was taken up, consideration was given to various aspects of the proposed license arrangement, from which the following are of interest:

1.—Virginia Chemical Company is willing to pay a royalty when and if infringement of our patents is proven. If no infringement is proven, they are agreeable to enter a cross-license arrangement, based upon the understanding that, should we develop something of interest, they will pay royalty for it.

2.—They would prefer that the licensed field be so restricted as not to include substances whose essential characteristics are not dependent upon titanium dioxide; e. g. they would like to have excluded printing ink and titanated lithopone. As to titanated lithopone, they would be willing to agree not to ship this material to Europe, provided they be given permission to export it to Canada.

3.—They do not wish to be excluded from export of finished articles. Dr. Jebsen described the situation in the various affiliated companies with respect to finished articles, which reassured the representatives of Virginia Chemical Company on this point.

By this time Mr. Allegart objected to a visit by the representatives of the Titanium Division to the plant of Virginia Chemical Company. He thought we ought first to give them some indication as to which patents of ours we thought they might infringe, then, if they could not convince us of non-infringement, they would be very willing to permit us to inspect the plant or to witness a pilot plant operation. It was then agreed that the representatives of National Lead Company would study the process as outlined by Mr. Ryan and select patents which were considered might be infringed. Mr. Allegart offered to answer any and all questions which might be desired by the representatives of National Lead in order to select such patents, and if desired, to furnish samples of their materials at any stage of their process.

The meeting adjourned with the understanding that Mr. Turner would write to Mr. Ryan after he had had the opportunity to consider the process as described by Mr. Ryan.

Exhibit 421

After adjourning, Mr. Zucker, in reply to a question of Mr. Kaegebehn, stated that Dr. Merwin of the Geophysical Laboratory had suggested the term "anhedral." Dr. Merwin was formerly under a retainer to the Titanium Pigment Company.

Exhibit 422

Letterhead of

E. I. DUPONT DE NEMOURS & COMPANY

THIS IS THE ONLY COPY

Newport, Del.
June 8, 1937

Mr. C. H. Rupprecht
Nemours Bldg.

AGREEMENT WITH VIRGINIA CHEMICAL CO.

In accordance with our conversation, I have gone over Virginia's patent 2,066,074 on Titanium-Calcium Pigment as related to our Blumenfeld re-issue 18,854 on Slow Addition Process. Two claims in our Blumenfeld re-issue (claims 7 and 8) contain a minimum time limit of 2' 45"; the specification sets up no strict limits but might be taken as disclaiming times of less than 5 minutes. Virginia, on the other hand, in oral discussion, claims that the most rapid addition is best and disclaims any plan to use slow addition in the Blumenfeld sense. On this basis I assume that they would be willing to limit themselves to a period of addition of less than 5 minutes and probably less than 2' 45". In such case, they should agree to the following disclaimer in the agreement which might be inserted after Section II

> "This agreement shall not include Titanium-Calcium pigment manufactured by the process described in U. S. P. #2,066,074, such process including the rapid mixing of titanium sulfate solution and calcium sulfate slurry in a period of less than 2' 45". (du Pont shall have the right to inspect Virginia's Titanium-

Calcium pigment manufacture to determine that the above process is in use.)"

The stipulation in parentheses concerning duPont's inection of the plant may or may not be acceptable to Virnia. If included, the way will, of course, be open to check on possible infringement from time to time. If not cluded, du Pont will still have the right to challenge Virnia on departure from the stipulated process should evince develop.

Obviously the above paragraph in the agreement will ve the door open, whereas, if we admit non-infringement w, Virginia will have a free hand in the future.

We shall also be perfectly willing to extend the same vilege to our other licensee, The American Zirconium Co.

J. E. Booge
Technical Director

B:DEE

Exhibit 423

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

June 16, 1937.

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

As per telephone conversation today, I am enclosing herewith a revision of Article III of the proposed license under our patents in the pure titanium dioxide field, which was submitted with our letter of May 12, 1937.

The adoption of this Article would necessitate two other changes: the omission of the parenthetical clause in Article V, and the deletion from Article VII of the words "unless cancelled in accordance with the provisions of paragraph (c) of Article III".

When you have had opportunity to look this over please advise, and I hope it will be found a satisfactory solution for the questions which have arisen.

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s
Encl.

Exhibit 423

III.

(a) It is recognized by du Pont that the manufacture of calcium base titanium pigment by the process described in United States Letters Patent No. 2,066,074 and Application for United States Letters Patent Serial No. 138,404 (as submitted by Virginia to du Pont under date of July 7, 1937), where such process includes the rapid mixing of titanium sulfite solution and calcium sulfate slurry within a period of less than two minutes and forty-five seconds (2′ 45″), does not infringe any of the claims of the Letters Patent licensed hereunder. It is agreed, therefore, that titanium pigment solely by means of such calcium base process or modifications thereof which do not infringe any of said claims shall be free not only from the quantity limitation set forth in paragraph (b) of Article I hereof, but also from the royalty obligations set forth in Article II hereof.

(b) Virginia shall permit the representatives of du Pont at all reasonable times to make a full inspection of Virginia's manufacturing operations for the purpose, and only for the purpose, of verifying that all or part of such operations conform to the process and speed limits referred to in paragraph (a) of this Article.

Exhibit 424

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 8, 1937.

CONFIDENTIAL

DR. J. E. BOOGE—NEWPORT:

In connection with the proposed license to the Virginia Chemical Corporation, you will recall that we re-wrote this so that if they confined themselves to the process described in their Patent No. 2,066,074 for the rapid mixing of titanium and calcium sulphate slurry, within a period of less than 2 minutes and 45 seconds, we would consider they do not infringe our patents, we, however, to be permitted to look over their operations from time to time.

They have, meanwhile, called my attention to the fact that they have another Application in the Patent Office which they would like us to review with respect to freedom from our patents, and if we so consider, include this Application Serial No. 138,104 with their issued Patent No. 2,066,074 in Article III of our agreement. In other words, if they practice within the Application and the issued Patent they will be considered free from our patents.

They also raise the question about 2 minutes and 45 seconds, claiming that the Blumenfeld patent gives an example of 4 minutes.

I am sending you their letter of July 7th, together with copy of their Application Serial 138,104, which they have submitted for our examination. Will you kindly look these over at your very earliest convenience and return all of the attachments to me with your reply.

Exhibit 424

Perhaps you will want to discuss this with Messrs. Biesterfeld and Hancock.

In any event, I would like to have it get some preferred attention, so we can get this matter behind us.

C. H. RUPPRECHT.

CHR:s
Encls.

Exhibit 425

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

Newport, Del.
July 12, 1937

CONFIDENTIAL

Mr. C. H. Rupprecht
Wlm. Office

LICENSE TO VIRGINIA CHEMICAL CO.

This will reply to your letter of July 8th on the above subject.

Patent Application No. 138,104—This application covers a process for producing gypsum for use in connection with the titanium-calcium pigment process covered by U. S. Patent 2,066,074. This application also describes a slightly modified process for making the titanium-calcium pigment. The principal changes in the hydrolysis step are use of *70°C* in place of 65° and use of an *alkaline* calcium sulphate slurry.

Altho we have not evaluated this slightly changed process and altho it is slightly more in the direction of infringing our hydrolysis patents, I believe that it will be satisfactory to allow use of this process by Virginia Chemical Co.

Addition Period of 2' 45"—Our reason for including an addition period of 2' 45" was the fact that certain claims in our Blumenfeld slow addition patent (Re-issue #18,854) specify this period of 2' 45". In view of the inclusion of this particular period in the claims, it seems obvious that we should not change the period to 4'. It may be pointed out

Exhibit 425

that the Virginia Chemical Co. representatives stated positively in conference that they plan to use *immediate* mixing and that the faster the mixing the better the quality. In view of this statement I question whether the difference between 2′ 45″ and 4″ is a critical one with them.

For your information, I am inclined to agree that they have a good argument in favor of increasing the time to 4′. The Blumenfeld specifications trend definitely in this direction altho, as stated above, the Examiner allowed certain claims with the shorter addition period. The specifications give examples both for 2′ 45″ and 4′ and state that 2′ 45″ does not yield as good results as the 4′ period. My own opinion is that we should hold out for 2′ 45″ as long as possible but, if agreement cannot be reached on this basis, we would have to concede the 4′ period to the Virginia Chemical Co.

JEB
J. E. Booge
Technical Director

JEB:DEE

Exhibit 426

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

July 28, 1937.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

Herewith are original and duplicate copies of the proposed license agreement on patents in the titanium dioxide field, which I understand from our last conferences is entirely acceptable to you in its present form.

If you will return to me with the necessary signatures, I will promptly arrange to submit to our Executive Committee with recommendation for approval, and endeavor to have final execution completed as promptly as possible.

Thanking you, I am

Yours very truly,

C. H. RUPPRECHT
GENERAL MANAGER.

CHR:s
Encls.

Exhibit 427

July 29, 1937.

To: EXECUTIVE COMMITTEE

FROM: KREBS PIGMENTS DEPARTMENT

PROPOSED LICENSE TO VIRGINIA CHEMICAL CORPORATION UNDER DU PONT TITANIUM DIOXIDE PROCESS PATENTS AND ACQUISITION OF RIGHTS UNDER THEIR U. S. PATENT NO. 2,066,074 AND APPLICATION SERIAL NO. 138,104

Submitted herewith is proposed license to be granted to Virginia Chemical Corporation (100% subsidiary of International Printing Ink Corporation) under du Pont titanium dioxide process patents, effective October 1, 1937.

Virginia Chemical Corporation sometime ago purchased titanium dioxide plant orginally erected by Vanadium Corporation at Piney River, Virginia, and in processing will utilize ilmenite from ore deposits adjoining the plant, which were, however, retained by Vanadium, who will supply the ore.

Virginia Chemical Corporation has developed a process for the manufacture of calcium base titanium pigment, which is covered by their issued U. S. Patent No. 2,066,074 and U. S. Application Serial No. 138,104, which has been thoroughly investigated by us, and indications on laboratory or small scale plant basis are that our patents are not infringed when producing the calcium pigment. However, Virginia is desirous of obtaining a license under our pure titanium dioxide patents as listed in Schedule "A" attached to proposed license. We believe it advisable to grant such non-exclusive license, and the agreement as hereto attached has been accepted by them.

Exhibit 427

Following are the principal features of the agreement as proposed:

1 — Limitation of tonnage which Virginia can produce under our patents expiring 1950, whereby they are limited to 3,000 tons per year for the first three years; 6,000 tons per year for the next six years; and 9,000 tons per year thereafter. Such limitation covers titanium dioxide as such, and included in the quantity allowed is the titanium dioxide content of any mixtures, compounds, etc. Quantity limitations apply as long as Virginia operates wholly or partly under any of the claims of the patents covered by the license.

2 — Virginia pays royalty of 2% on Krebs average published carload selling price, with minimum royalty of ¼¢ per pound. At present price this would not $18,200 per year on 3,000 tons; $36,400 on 6,000 tons; and $54,600 on 9,000 tons.

3 — Titanium dioxide in calcium base pigment, if produced under process described in Virginia's Patent No. 2,066,074 and Application Serial No. 138,104, is excepted from tonnage limitation and royalty provisions mentioned in Paragraphs 1 and 2, but subject to verification by du Pont through regular plant inspections at any time.

4 — Virginia admits validity of Krebs patents and is not released from this admission if license is terminated before its normal expiration.

5 — Virginia is bound to make royalty payments on all titanium dioxide produced for a period of ten years, but can then terminate upon showing proof that they do not infringe claims of any unexpired patents covered by license.

Exhibit 427

6 — Virginia is licensed only under pure titanium dioxide patents issued to du Pont to-date on present type of anatase crystal structure pigment, and does not receive any rights under patents on tinted titanium dioxide, blended pigments, and titanium dioxide of rutile crystal structure.

7 — In addition to royalty payments, du Pont receives non-exclusive, royalty-free license under Virginia's Patent No. 2,066,074 and Application 138,104 for producing calcium base titanium pigment.

8 — Du Pont admits validity of Virginia's Patent 2,066,074 and any patent which may issue against their Application 138,104, but effective only so long as du Pont is licensed under said letters patent.

This license has been approved by Patent Division and Legal Department.

It is recommended that the license in its complete form as herewith be approved, and the Management authorized to execute.

C. H. RUPPRECHT
GENERAL MANAGER

Exhibit 428

NATIONAL LEAD COMPANY

Subject VIRGINIA CHEMICAL COMPANY INFRINGEMENT MATTER

Date February 17th, 1938

To Mr. W. C. Beschorman—Executive Vice-President

From Mr. C. F. Kaegebehn—Patent Department

In Reply to

Dear Mr. Beschorman:—

On February 1st, I conferred with Mr. Kimball regarding the possibility that the Virginia Chemical Company were infringing our patents in their manufacture of pure titanium dioxide. Since the Virginia Chemical Company is not making composite calcium sulfate pigment at this time, I did not take up with Mr. Kimball in detail whether or not in his judgment claims of our calcium sulfate composite pigment patents would be infringed by a process such as they have described to us.

We do not have in our possession any detailed information concerning the complete process employed by this company for making pure titanium dioxide; consequently, we can only assume that their initial step, that is the digestion, is the same as they described to us as part of their process for making calcium sulfate composite pigment. The most important patent we have relating to this step is the patent covering the so-called Washburn Digestion Method. Careful consideration of the claims of this patent in rela-

tion to the digestion step of Virginia Chemical Company's process as described to us led Mr. Kimball and myself to believe that we cannot assert that they will infringe the claims of this patent. If their digestion step is exactly as they have described it, limitations introduced in the claims of our patent which were necessary in order to secure allowance render those claims too limited to cover their procedure. Apparently, their technique was developed having in view the entire file history of the prosecution of our patent.

Mr. Kimball and I then considered the next step, and I presented to Mr. Kimball Mr. Turner's recommendation that we get in touch with Virginia Chemical Company, stating that our examination of their calcium sulfate process would, in our opinion, infringe certain of our patents, and further inform them that we had learned that they were now manufacturing only pure titanium dioxide, and request from them the details of their process of manufacturing this material. Mr. Kimball thought that this would probably be the best procedure, provided we were reasonably convinced that the Virginia Chemical Company people would be frank with us.

If you feel this is the proper procedure, a letter might be sent along the lines of the draft attached hereto which, although not drafted by Mr. Kimball, is based upon the conclusions reached at my conference with him. On the other hand, probably this could be just as well taken care of by a telephone call by you to Mr. Pitman.

In this connection, may I recall the attitude of Virginia Chemical Company as expressed by Mr. Allegart, viz., that they were willing to enter into a royalty-free, cross-licensing agreement, containing the proviso that they would pay roy-

Exhibit 428

alty in the event they would avail themselves of the processes of any of our patents. If an investigation of their process for making pure titanium dioxide indicates that they are not infringing our patents, might it not be a good thing, from point of view of competition, to have beforehand some understanding on this point?

Yours very truly,

C. F. KAEGEBEHN

CFK:lo
enc.

Exhibit 429

NATIONAL LEAD CO.
111 Broadway
New York

COPY

March 2, 1938

Mr. John Allegart, President
United Color & Pigment Co., Inc.
158 Mt. Olivet Avenue
Newark, New Jersey.

Dear Mr. Allegart:

The recent experimental investigation conducted by the Research Laboratories of our Titanium Division of your process for the manufacture of titanium dioxide-calcium sulfate pigment, including an examination of samples from various steps of your process furnished by Mr. L. W. Ryan has convincingly demonstrated to us that such a process infringes certain of our patents.

Since our last conversation in this matter, we have been informed that you have turned to the manufacture of pure titanium dioxide. We do not have any details of your process for making the pure dioxide. However, since we hold many patents relative to the manufacture of pure titanium dioxide as well as composite pigments, it seems more than probable that at least some of them are being infringed by you. We suggest, therefore, that you will want to furnish us with a complete description of your process, in order to bring the question of licenses, etc., to a speedy conclusion.

Yours very truly

(Signed) W. C. BESCHORMAN
Executive Vice President.

Exhibit 430

COPY

Mr. Garesché

UNITED COLOR AND PIGMENT COMPANY, INC.
General Office and Plant, Newark,
N. J.

Mr. W. C. Beschorman, Executive Vice President
National Lead Company
111 Broadway
New York City.

March 4, 1938

Dear Mr. Beschorman:

Thank you for your letter of March 2nd.

We are surprised that the study made by your Research Laboratory leads you to the conclusion that our process for the manufacture of titanium dioxide calcium sulfate pigment infringes certain of your patents.

Our legal and technical people are completely convinced, based on their investigation, that our process is free of any infringement. However, since our efforts have been turned to titanium dioxide, rather than calcium base pigment, it would probably be logical to postpone our discussion of the calcium base pigment until such time as we actively consider its manufacture.

We have made a detailed patent study in the titanium dioxide field and are of the opinion that our process does not infringe any of your patents. We shall be very glad to endeavor to demonstrate this to you either by sending you the details of our process, or by a joint technical discussion of the subject at a mutually convenient time. If you will be good enough to let me know which approach you prefer, we shall be guided accordingly.

Very truly yours,

JAGGP

(Signed) JOHN ALLEGAERT

Exhibit 431

May 7th. 1938.

COPY

I = Digestion Step
II = Treatment of Digestion Cake
III = Hydrolysis
IV = Treatment of Hydrate
V = Calcimation
VI = After Treatment
VII = Composite Pigments
VIII = Miscell.

Mr. John Allegart, President,
United Color & Pigment Co.,
158 Mount Olivet Avenue,
Newark, New Jersey.

Dear Mr. Allegart:

Pursuant to the understanding reached in the course of your conversation with Mr. Garesché and me, I present herewith a list of U. S. Patents now in force which are owned or controlled by National Lead Company, and which cover or are applicable to the manufacture of titanium dioxide pigments:

	Patent Number	*Date*
V	1.389.191	Aug. 30, 1921
VII	1.409.648	March 14, 1922
V	1.412.027	April 4, 1922
VIII	1.436.164	Nov. 21, 1922
VIII	1.501.587	July 15, 1924
VIII	1.539.996	June 2, 1915

Exhibit 431

	Patent Number	*Date*
II	1.619.036	March 1, 1927
VII	7.680.316	Aug. 14, 1928
I	1.695.270	Dec. 18, 1928
VIII	1.697.929	Jan. 8, 1929
III	1.738.765	Dec. 10, 1929
III	1.758.472	May 13, 1920
III	1.773.727	Aug. 26, 1930
VIII	1.816.388	July 28, 1931
III	1.820.987	Sept. 1, 1931
III	1.820.988	Sept. 1, 1931
I	1.831.852	Nov. 17, 1931
VIII	1.847.539	March 1, 1932
VIII	1.849.153	March 15, 1929
VIII	1.850.154	March 22, 1932
VIII	1.850.286	March 22, 1932
I	1.852.510	April 5, 1932
I	1.856.565	May 3, 1932
VIII	1.878.013	Sept. 20, 1932
I	1.889.027	Nov. 29, 1932
VIII	1.891.210	Dec. 12, 1932
I	1.891.911	Dec. 27, 1932
VII	1.906.739	May 2, 1933
VII	1.906.730	May 2, 1933
III	1.916.236	July 4, 1933
I	1.919.425	July 25, 1933
VIII	1.929.521	Oct. 10, 1933
VIII	1.934.778	Nov. 14, 1933
VIII	1.941.285	Dec. 26, 1933
III	1.957.528	May 8, 1934

Exhibit 431

	Patent Number	*Date*
VIII	1.969.061	Aug. 7, 1934
V	1.995.580	March 26, 1935
III	2.034.923	March 24, 1936
VIII	2.039.432	May 5, 1936
III	2.055.221	Sept. 22, 1936
VII & III	2.055.222	Sept. 22, 1936
VIII	2.068.294	Jan. 19, 1937
VIII	2.084.826	June 22, 1937
VI	2.084.917	June 22, 1937
VIII	2.084.918	June 22, 1937
III	2.091.799	Aug. 31, 1937
III	2.098.278	Nov. 9, 1937
VIII	2.111.460	March 15, 1938
VIII	2.113.945	April 12, 1938
VIII	2.113.946	April 12, 1938

Should it so happen that you do not have readily available copies of all these patents, please call me on the telephone and it may be that I shall be able to supply the necessary copies at once.

Yours very truly,

NATIONAL LEAD COMPANY

CFK:JL

cc: Mr. C. F. Garesché
Mr. J. L. Turner

Exhibit 432

Notes on Conference of June 1st, 1938 with Representatives of the Virginia Chemical Company—Conference held in Mr. Garesché's Office—111 Broadway, New York City —Those Present: Messrs. J. Allegart, L. W. Ryan, M. Zucker, C. F. Garesché, J. L. Turner, Dr. W. W. Plechner and Mr. C. F. Kaegebehn.

Mr. Ryan described the process used by the Virginia Chemical Company for the manufacture of titanium dioxide somewhat as follows:

Dried and ground ore (native variety) which has been previously leached with 15 to 20 percent sulfuric acid to remove as much phosphate as possible, together with some gangue, micaceous matter and a little iron, is employed. The ore is ground to a fineness so that about 90 percent will pass through a 325 mesh screen. The leaching raises the TiO_2 content of the ore from about 42 to 48 percent.

85 percent sulfuric acid is first poured into the digestion chamber which is a tall, cylindrical vessel having a conical bottom and equipped with valves for steam and air. The vessel, according to Mr. Ryan's statement, is substantially that known as the "Washburn Tank." After the sulfuric acid, the ore is charged into the digestion tank. The ratio of ore to acid is approximately 1 part of ore to 1.6 parts H_2SO_4, calculated as 93 percent acid. The ore-acid mixture is stirred by the injection of air and the temperature thereof raised by injecting steam. When the temperature reaches between 125° to 130° C., dry, powdered starch is dumped on top of the mixture, the air and steam being shut off at this point. The quantity of starch is about 100 lbs. for a digestion batch of about 2 to 3 tons. The starch sets

off the reaction. Mr. Ryan made the analogy of a spark touching off a heap of gun powder. The reaction is the usual exothermic one and attains a maximum temperature of about 175° C. The recovery of TiO_2 is stated by Mr. Ryan to be a little over 97 percent.

When the reaction is complete, the mass is cooled to about 80° C. by blowing air through it. This cooling requires about 2 hours. The reaction mass is then dissolved in water. Mr. Ryan stated that no acid was used to facilitate the dissolution because they had developed a particular technique which prevented hydrolysis and brought about a satisfactory dissolution of the mass. After dissolution, the supernatant liquor is separated from the residue, settled with the addition of clay alone, without the addition of any other settling agent, cooled to crystallize ferrous sulfate which is then removed, and finally concentrated by vacuum evaporation to about the following composition:

16% TiO_2
about 1 part $FeSO_4$ to 1 part TiO_2
6 to 7 grams per liter reduced titanium
Sulfuric acid content of about 75% of that theoretically required to combine with all the titanium

The precipitation, according to Mr. Ryan, was a straight Blumenfeld precipitation, effected by running the concentrated hydrolysis liquor into warm water and thereafter boiling the mixture for about 6 to 7 hours until a recovery of about 95 percent TiO_2 was attained. During the boiling, Mr. Ryan stated that additions of water were made to keep the volume of the hydrolyzing solution constant.

Exhibit 432

When hydrolysis was complete, the precipitated hydrous titanium oxide was filtered and washed. Mr. Ryan stated that the washing process was a series of filtration and repulping operations. A reducing agent—zinc dust—was added during this washing process, together with some sulfuric acid as a 3 percent solution; this to constitute a bleaching treatment. When the washing was complete, a little potassium carbonate was added and the whole calcined in the usual way. The calcined material was then subjected to wet milling, using sodium silicate as the dispersing agent, after which it was flocculated with magnesium sulfate. Thereafter, the product was washed and dried and ready for marketing.

Mr. Kaegebehn then briefly described the patents owned and controlled by National Lead Company, relating to the manufacture of titanium dioxide as listed in his letter to Mr. Allegart of May 7th, 1938 and classified in his memorandum to Dr. Plechner of May 9th, 1938.

Of the patents listed, the following:

U. S. Patent No. 1.889.027—Washburn Digestion Method Patent

U. S. Patent No. 1.412.027—Titanium Dioxide Pigment Containing Phosphate Patent

were considered to be infringed by the above-described process of the Virginia Chemical Company in the opinion of the representatives of National Lead Company. Interpretations of these patents were exchanged. The representatives of the Virginia Chemical Company thought they did not infringe according to their interpretation of the

claims of the patents; the representatives of National Lead Company maintaining that their interpretation of the claims of these patents indicated an infringement by Virginia Chemical Company.

Attention of the Virginia Chemical Company representatives was called to the allowed application Serial No. 136,502, for which final fee was paid on May 24th, 1938, covering the addition of water during hydrolysis. Attention was further directed to application Serial No. 79,003 which contains allowed claims and which relates to the use of zinc dust alone, without use of added acid, as a bleaching agent for hydrous titanium oxide.

With respect to the above-mentioned patent applications, Mr. Allegart stated that it was possible that they might infringe the claims of these applications, particularly the water-addition case, but they would endeavor to avoid infringement by discontinuing the practice which infringed rather than to pay a royalty because they felt that neither the water-addition nor the use of zinc dust as a bleaching agent were essential in their process.

The meeting concluded in an exchange of views between Mr. Garesché and Mr. Allegart. Mr. Allegart expressed the willingness of Virginia Chemical Company to enter a full reciprocal exchange on a royalty-free basis. Mr. Garesché expressed the belief that Virginia Chemical Company would profit to a greater extent than National Lead Company in such an arrangement and, therefore, Virginia should appreciate the value of the rights which National could give them and be willing to accept a royalty basis for such rights.

It was agreed that both parties would consider further the interpretation of the patents and applications which

Exhibit 432

Virginia Chemical Company might infringe, as noted above, and thereafter another conference will be held finally to determine whether or not there existed an actual infringement and to endeavor to reach a basis for concluding an arrangement between the companies.

C. F. Kaegebehn—Manager
Patent Department
National Lead Company
June 3rd, 1938

Exhibit 433

PROPOSED LICENSE TO VIRGINIA CHEMICAL COMPANY
August 19, 1938
Mr. C. F. Garesché
C. F. Kaegebehn—Patent Department

Dear Mr. Garesché:

In connection with the proposed grant of license to Virginia Chemical Company, we have first to consider our obligations under the Agreement of 1920. Article XIV of this Agreement gives us the right to grant licenses but it obligates us to impose upon the sub-licensees certain obligations therein enumerated. These are the following:—

(a) The sublicensees must grant to Titan Company, Inc. exclusive licenses under any patents which it may own or in the future possess in the territory of Titan Company, Inc.

(Virginia Chemical Co. has already expressed its willingness to accept this obligation—in fact, they have indicated their readiness to turn over complete title to their inventions and patents to us for the territory of Titan Co. Inc.
In connection with this obligation however, we shall have to inquire into this situation in Canada which, however, does not effect Titan Co. Inc. but does effect C.T.P.)

(b) The sublicensee must obligate itself promptly to inform us when they file patent applications in the United States so that we can take the necessary steps to protect the

interests of Titan Company, Inc., in Titan Company Inc.'s territories with respect to such inventions.

(Virginia Chemical Co. has already expressed its willingness to accept this obligation.)

(c) Virginia Chemical Co. must obligate itself not to contest the validity of any patents under which it obtains a license.

(This is more or less a formal obligation because under the law a licensee is estopped from contesting the validity of a patent under which he has a license. In any event, Virginia Chemical Company has expressed its willingness to accept this obligation.)

(d) The Virginia Chemical Co. must undertake to respect the sales territory of Titan Co. Inc. and appoint National Lead Company its agent for the sale of its products in the territory of Titan Co. Inc.

(National Lead Co. has already obligated itself to appoint Titan Co. Inc. its agent for Titan Co. Inc.'s territory so that this obligation really means that Virginia Chemical Co. is appointing Titan Co. Inc. its agent through National Lead Co.

The manner of establishing this territorial obligation causes us some concern due to the present tendency with regard to division of world-wide territory into fields of sale. Virginia Chemical Co. has already indicated its willingness not to compete with Titan Co. and Titan Company's associates in their respective territories, but the manner of expressing

this obligation so as not to controvert in letter or spirit the various U.S. anti-monopoly laws is a matter for careful legal consideration.)

(e) Virginia Chemical Co. must obligate itself to place at our disposal for Titan Co. Inc. and its associates technical information regarding its process which may or may not be susceptible of being patented.

(Virginia Chemical Co. has already indicated its willingness and, in fact, desire to exchange the "skill of the art". However, we have to consider here our obligations with respect to Du Pont. Nevertheless, it appears to us possible to work out an arrangement whereby Virginia Chemical Co. can exchange with Titan Co. through us and through visits of Titan Company's representatives to Virginia Chemical Co.'s plants; and visits of Virginia Chemical Co.'s representatives to Titan Company's plants. a scheme whereby the obligations of this section can be met.)

(f) Virginia Chemical Co. must obligate its employees to assign their inventions to Virginia Chemical Co. so that it may in turn grant us licenses.

(This appears to be a rather formal requirement and in all probability Virginia Chemical Co. does bind its employees to assign their inventions to the company.)

Article XIV of the Agreement of 1920 contains provisions with respect to the payment of royalties and the keeping of accounts in the event National Lead Company has to

pay royalties on the production of the licenses to Titan Company, Inc. Since National Lead Company no longer pays any royalties to Titan Co. In. these provisions have no effect on the Virginia Chemical Company situation.

With respect to the scope of the "licensed field" within which National Lead Company and the Virginia Chemical Company will exchange patent rights, this question has already been considered with Virginia Chemical Co. They have indicated their readiness to exchange licenses with respect not only to titanium pigments, but titanium compounds generally, thus meeting the requirements of the "licensed field" of the Agreement of 1920. The only exception requested by Virginia Chemical Co. is titanated lithopones.

With respect to the royalties which we may obtain from the Virginia Chemical Co., Mr. Beschorman first mentioned the figure of 2 per cent on the list price set by National Lead Company.

With respect to the limitation of production clause, Mr. Beschorman mentioned, for the first period of three years, a production of 3000 tons of TiO_2 per year; for the second period of three years a production of 6000 tons of TiO_2 per year; and for the third period of three years a production of 9000 tons of TiO_2 per year.

With respect to the royalty and the limitation of production clauses, these figures were based upon the belief existing at that time that Virginia Chemical Co. intended to market composite calcium sulfate pigment. If the present contemplated license is to include rights for Virginia Chemical Co. to manufacture all types of titanium pigments, the royalty and limitation of production clauses should specify that they apply to the titanium dioxide content whether

sold as the pure dioxide or in the form of a composite pigment.

About May, 1937, we prepared a draft of a license agreement, copy of which was submitted to Virginia Chemical Company. This license agreement was based upon the Agreement of 1920 and our agreement with American Zirconium Corporation. We have had one conversation with Mr. Zucker, attorney for Virginia Chemical Co., regarding this license agreement. The conversation was largely directed to matters of form because no agreement had been reached with respect to the important clauses covering royalty and limitation of production. At this time, we feel that this draft agreement will have to be considerably modified, particularly with respect to territorial limitations. In connection with this territorial limitation idea we are in a dilemma of being obligated to protect the sales territory of our European associates, and at the same time insuring that we do not do anything counter to the American anti-trust and anti-monopoly laws.

Reference to my files discloses that we prepared an agreement between National Lead Company and Virginia Chemical Company, and a second agreement, in the nature of a guarantee agreement, between National Lead Company and International Printing Ink Corp. Mr. Beschorman sent only a copy of the first agreement, i.e., between National Lead Co. and Virginia Chemical Co. to Mr. Pitman, vice-president of the International Printing Ink Corp. on March 30, 1937. I attach hereto copy of the draft which I prepared which shows the subject matter of the various clauses of the agreement and their derivation, that is, whether they were obtained from the Agreement of 1920 or from the American Zirconium Agreement.

Exhibit 433

May I suggest that if you and Mr. Allegart reach an agreement on the royalty and limitation of production, we get together with Mr. Zucker of the Virginia Chemical Co. to devote as much time as may be necessary to preparing a new and more satisfactory draft of Agreement.

Yours very truly,

CFK:RC
encls.

Exhibit 434

September 13th, 1938

Dr. G. Jebsen
c/o Titan Company, Inc.
26, Rue de la Pépiniere
Paris — VIIIe — France

Re: Virginia Chemical Co. Matter

Dear Dr. Jebsen:—

Mr. Garesché has asked me to write you concerning our negotiations with the Virginia Chemical Company, with a view to granting them license to manufacture titanium dioxide pigments. The Virginia Chemical Company, as you know, is the subsidiary of the United Color and Pigment Company, which in turn is a subsidiary of the International Printing Ink Corporation.

As a result of recent conversations with the Virginia Chemical Co. people, a substantial agreement has been reached on all points, except the amount of royalty to be paid. Should an agreement be reached on this point, then we shall have to consider drafting a license agreement. Our problem then will be to incorporate in this agreement the obligation set forth in Article XIV of the Agreement of 1920, and to bind Virginia Chemical Co. to respect the various conditions of that Article. We do not anticipate that this will give us much difficulty, except on one point: That which concerns the territorial obligations to be assumed by Virginia Chemical Co. The Virginia Chemical Co. is perfectly willing to assume these obligations, but in view of the present attitude here in the United States regarding such obligations and their relation to our anti-

monopoly laws, there may be some difficulty in expressing this obligation in the agreement.

On August 19th I wrote a memo. to Mr. Garesché, which memo. preceded our last conversation with Virginia Chemical Co. This memo. set forth the obligations which must be imposed upon Virginia Chemical Co. and noted the anticipated difficulty with respect to the territorial obligation. I enclose herewith a copy of that memo.

Mr. Garesché will, I believe, want to discuss this question with you in the hope that you may be able to suggest some means by which Titan Company, Inc. and its European associates could be protected to the same extent as envisioned in Article XIV, while avoiding any possible conflict with our anti-monopoly laws. In this case I would not deem a purely verbal understanding desirable.

With very kind regards,

Yours very truly,

CFK:JL
Enc: 1

c.c. Mr. C. F. Garesché

Exhibit 435

Virginia Chemical

C.F.K. letter

"No longer pay royalty"—No : 10¢ ton.
We would pay on V.C.Co. production.
This clause keeps certain other clauses in effect.

Certain degree of protection by reason of exclusive license to foreign companies in foreign territory but long drawn out legal task to prove that manufactured under patents. Virginia Ch. Co. not to have the right to sublicense. Royalty clause of Art. 14 need not be embodied in V.C.Co. contract but may be at our discretion.

If V.C.Co. follows 1920 agreement they will agree to appoint N.L.Co. ~~or~~ Titan Co. Inc.—as their sole agent for introduction and sale into territories other than U.S.A. (see article VI c), (no matter to T.Co.Inc.—it may possibly be covered by a sub-letter).

Dumping Phase.

V.C.Co use of Blumenfeld patents would probably estop dumping in countries where Blumenfeld patents have been taken out (not Scandinavia & Holland or Belgium).

Dr. J. feels dumping would be harmful to T.Co. Inc. but feels impossible to evaluate it.

C.F.G.
10.7. 1938

Copy to Dr. Jebsen

Exhibit 436

COPY

Blind copies to:
Messrs. S.L. Abrans, Legal Dept.
C.H. Lyman, Office

REGISTERED MAIL

CONFIDENTIAL

October 11, 1938

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

Under Article I paragraph (b) of our agreement of August 5, 1937 the maximum quantities of titanium dioxide which Virginia Chemical Corporation is licensed to make under our patents during the 12 months periods designated as October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, are 3000 tons for each of these 12 months periods.

In our conversation of last Friday you explained the existing conditions which prevented your producing the total 3000 tons over the first 12 months period above mentioned, and asked whether we would be agreeable to have you carry over this quantity into the second 12 months period referred to herein; in other words, permitting you to produce a total of 6000 tons in two years running from October 1, 1937 to September 30, 1939.

In view of the circumstances explained by you, we are agreeable to such modification of the contract. Accord-

ingly, the two 12 months periods of October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, will be treated as one period, and during that time you are hereby licensed to produce under the contract an aggregate quantity not to exceed 6000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of these 12 months periods.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions.

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted October , 1938
Virginia Chemical Corporation

By (s) John Allegaert
President

Exhibit 436

DRAFT

EXACT COPY

Blind copy to:
Messrs. S.L. Abrams, Legal Dept.
C.H. Lyman, Office

October 11, 1938

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

Under Article 4 paragraph (b) of our agreement of August 5, 1937 the maximum quantities of titanium dioxide which Virginia Chemical Corporation is licensed to make under our patents during the 12 months periods designated as October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, are 3000 tons for each of these 12 months periods.

In our conversation of last Friday you explained the existing conditions which prevented your producing the total 3000 tons over the first 12 months period above mentioned, and asked whether we would be agreeable to have you carry over this quantity into the second 12 months period referred to herein; in other words, permitting you to produce a total of 6000 tons in two years running from October 1, 1937 to September 30, 1939.

Exhibit 436

In view of the circumstances explained by you, we are agreeable to such modification of the contract. Accordingly, the two 12 months periods of October 1, 1937 to September 30, 1938, and October 1, 1938 to September 30, 1939, will be treated as one period, and during that time you are hereby licensed to produce under the contract an aggregate quantity not to exceed 6000 tons, in lieu of the maximum quantities stated in the agreement with respect to each of these 12 months periods.

As you can understand, we are always reluctant to make any change in the provisions of such a contract. Our consent to this modification should not be regarded as a precedent for waiving any of its provisions, ~~and we must ask that in future you strictly adhere to the maximum quantities specified in the contract.~~

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

GENERAL MANAGER.

Accepted October , 1938
Virginia Chemical Corporation

By .....
President

Approved by
S. L. Abrams
10/11/38.

Exhibit 437

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Paris, October 25th 1938.

Charles F. Kaegebehn Esq.
Manager, Patent Department
111 Broadway
New York City, U:S.A.

Dear Mr. Kaegebehn,

Re: Virginia Chemical Co. Matter.

Many thanks for your letters of September 13th and 20th.

I have discussed the question with Mr. Garesché during his stay here, and may only point out to you the following, which I also mentioned in my talk with Mr. Garesché:

I do not think that a verbal understanding with firms, which are more or less unknown to our associated companies, will be welcome by these. It would anyhow put a very great responsibility on the National Lead Co. and should be rather avoided.

I have noted that in the present case you also think a verbal understanding is not desirable.

With very kind regards,

Yours very truly,

G. JEBSEN

Exhibit 438

COPY

Blind copy to:
S. L. Abrams, Legal Dept.

March 9, 1939.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:—

This will confirm our conversation of Friday, March 3rd, relative to Article I, paragraph (b) of our agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents.

In order to afford to you an earlier and more gradual basis of increase, we are agreeable to changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941, to the total annual quantities of 3600 tons and 5400 tons, respectively. This is in lieu of the quantities of 3000 and 6000 tons stated for these two periods in the original agreement.

It is further understood that our consent to this additional modification can not be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 438

Please indicate your acceptance of this amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. RUPPRECHT
GENERAL MANAGER

CHR:s

Accepted, March 14, 1939
Virginia Chemical Corporation

JOHN ALLEGAERT
President

Exhibit 439

COPY

Blind copy to:
S. L. Abrams, Legal Dept.

November 21, 1939.

REGISTERED MAIL

CONFIDENTIAL

John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

This will confirm our conversation of Friday, November 17, 1939, relative to Article I, Paragraph (b) of our agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents, and also our letter of March 9, 1939 authorizing certain modifications.

In view of the conditions explained by you, we are agreeable to a further modification from our letter of March 9, 1939 to the extent of changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941, to the total annual quantities of 4500 tons and 4500 tons respectively. This is in lieu of the quantities of 3600 and 5400 tons provided in our letter of March 9, 1939 for these two periods.

It is, of course, understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 439

Please indicate your acceptance of this further amendment of this contract by signing and returning the enclosed copy of this letter.

Very truly yours,

C. H. Rupprecht
General Manager

CHR:s

Accepted, November 22, 1939
Virginia Chemical Corporation

By (s) JOHN ALLEGAERT
President

Exhibit 440

COPY

Blind copy to:
Mr. S. L. Abrams, Legal Dept.
Mr. J. P. Hancock, " "

REGISTERED MAIL

CONFIDENTIAL August 5, 1940

Mr. John Allegaert, President,
Virginia Chemical Corporation,
c/o United Color and Pigment Company,
Newark, New Jersey.

Dear Mr. Allegaert:

This will confirm our conversation of today, relative to Article I, Paragraph (b) of our Agreement of August 5, 1937, under which Virginia Chemical Corporation is licensed to manufacture specific quantities of titanium dioxide under our patents, and also our letter of November 21, 1939 authorizing certain modifications.

In view of the conditions explained by you, we are agreeable to a further modification from our letter of November 21, 1939, to the extent of changing the quantities specified for the two twelve-month periods ending September 30, 1940 and September 30, 1941 to the total annual quantities of 5000 tons and 4000 tons, respectively. This in lieu of the 4500 tons quantities provided in our said letter of November 21, 1939 for each of these two periods.

It is, of course, understood that our consent to this additional modification cannot be regarded as a precedent for waiving any of the provisions of the contract.

Exhibit 440

Please indicate your acceptance of this further amendment of this contract by signing and returning the enclosed copy of this letter.

Yours very truly,

Z. Y. PHELPS, ASST. GENERAL MANAGER

ZP:d

Accepted, August 7th, 1940
Virginia Chemical Corporation

By JOHN ALLEGAERT
President

Exhibit 441

November 14, 1940

Mr. C. F. Kaegebehn:
Patent Department,
National Lead Company,
Building

Dear Mr. Kaegebehn:

I am enclosing herewith a copy of Mr. Turner's letter of the 13th, as well as the mentioned letter of the same date to Mr. Corddry.

It is my thought that there is indication that the Virginia Chemical Company are infringing certain of our patents and that we should take the necessary steps to force them to cease this infringement.

Will you please give this your consideration and consult with me on the proper steps to be taken.

Yours very truly,

Manager

cc Mr. Turner

Exhibit 442

COPY

April 4th, 1941

Mr. C. J. Stopford
British Titan Products Co., Ltd.
Burlington House, Yarm Road
Eaglescliffe, Stockton-on-Tees
England

Re: British Patent No. 457,719
United Color & Pigment Co., Inc.

Dear Mr. Stopford:

We thank you for your letter of March 5th, 1941, which is very interesting.

British patent No. 457,719 apparently is equivalent to U. S. Patent No. 2,066,093 to United Color & Pigment Co., Inc. and we also have regarded the United States patent as dependent upon the United States patent in case T. 47.

United Color & Pigment Co., Inc. has a license on behalf of its subsidiary, Virginia Chemical Company, from Du Pont under the Blumenfeld patents for the manufacture of pure titanium dioxide. They do not have any license from us but we have asserted that they are infringing certain of our claims and negotiations have dragged along with them for some time. They would like us to license them under our patents for composite pigments and

Exhibit 442

straight titanium dioxide and also to impart to them the "skill of the art", which, I believe, our people are reluctant to do.

Yours very truly,

TITÁN COMPANY, INC.
C. F. KAEGEBEHN

CFK:JL

c.c. Mr. S. Andersen
Mr. C. F. Garesché

Exhibit 443

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

September 24, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I would appreciate it very much if you would have forwarded to Mr. William J. O'Brien, Vice-President of the Glidden Company, Cleveland, Ohio, a sublicense agreement covering the processing of titanium pigments, pursuant to our license agreement with your company of April 10, 1939. I have reviewed with Mr. O'Brien the sublicense agreement between your company and duPont, dated April 14, 1939; and it will be satisfactory if the sublicense with the Glidden Company is in a form similar to this.

Yours very sincerely,

A. M. STACKHOUSE
A. M. Stackhouse,
President.

CC—Mr. William J. O'Brien.

Exhibit 444

September 27, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

I have your letter of the 24th with reference to our granting a sub-license to the Glidden Company under our exclusive license agreement with you.

You; of course, realize that the license is not to be given to the Glidden Company, but to the American Zirconium Corp., of which Mr. O'Brien is also an officer. We have had a request from him for such a license and now have it in preparation.

I note from your letter that you have already discussed with Mr. O'Brien the details of our license agreement with DuPont. In this case, this has done no harm, as we plan to give a practically identical license to them. However, in the future, we would prefer that you did not show, or discuss, details of this license with any propective licensees. You can appreciate that such details should come from us and that there may be reasons why agreements should not in all cases be identical.

Yours very truly,

C. F. GARESCHE
Manager

Exhibit 445

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

October 2, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I would appreciate it if you would advise me whether or not it would be satisfactory to your company to sublicense the Interchemical Corporation or one of its subsidiaries under your general license agreement in reference to the processing of titanium pigments. It was my understanding that you would be willing to sublicense substantial manufacturers in this field; and it would be of great assistance to us if we could have your confirmation as to this particular company.

Yours very sincerely,

A. M. STACKHOUSE
A. M. Stackhouse,
President.

Exhibit 446

October 4, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

I have your letter of October 2nd inquiring as to our willingness to grant to InterChemical Corporation, or one of it's subsidiaries, a sublicense under our exclusive license from you of April 10, 1939 under U. S. Patent No. 2032827 for the processing of titanium pigments.

We have as you know already granted such sublicenses to substantial titanium manufacturers of our own selection. In view of our own considerable expenditures in adapting your invention to the field of titanium manufacture and in demonstrating its value in that field, we feel that we have already gone as far as we can reasonably be expected to go in the way of granting sublicenses under the limitation prescribed in our own license. In the circumstances, therefore, we regret that we cannot consider the grant of such a sublicense as you suggest.

Yours very truly,

Manager

Exhibit 447

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

October 29, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

I wish to confirm the conversation which I had with you on the telephone from Cleveland on October 16th. I telephoned you after conversing with the Sherwin-Williams Company in reference to the application of our Micronizer for the processing of a number of its pigments; and, of course, the question of the use of the mill for titanium pigments was discussed. Although the volume of the production of Sherwin-Williams probably is negligible at this time, it is quite possible that unless we are able to include titanium pigments in a license agreement with that company we shall not be able to license it for other pigments.

When our license agreement with your company was negotiated I was under the impression that your company would be willing to sublicense any substantial producer; and I was not furnished the names of those who would be refused sublicense agreements. At that time I did not know of the several understandings and agreements which exist among the producers of titanium pigments as to the manufacture and marketing of these materials.

Exhibit 447

I do not feel that this is a matter which can seriously prejudice your company; and I would greatly appreciate it if you would reconsider your position in this matter so that I can discuss it further with Sherwin-Williams.

Yours very sincerely,

A. M. STACKHOUSE

A. M. Stackhouse,
President.

Exhibit 448

Letterhead of

INTERNATIONAL PULVERIZING CORPORATION

November 12, 1940

Mr. C. F. Garesche,
National Lead Company,
111 Broadway,
New York City.

Dear Mr. Garesche:

On October 29th I wrote to you in reference to sub-licensing Sherwin-Williams Company in connection with the processing of titanium pigments. I have again heard from that company; and I would appreciate it very much if we could have some favorable response from you so that we can take this matter up further with that company.

With kindest regards,

Yours very sincerely,

A. M. STACKHOUSE

A. M. Stackhouse,
President.

Exhibit 449

November 13, 1940

Mr. A. M. Stackhouse, President
International Pulverizing Corporation,
New Albany Road,
Moorestown, N. J.

Dear Mr. Stackhouse:

Your letters of October 29th and November 12th are acknowledged.

We note your statement that you were under the impression that our company was willing to sub-license any substantial producer. We can only say that there was no basis for such an impression, as it was never our intention. You must appreciate that under our license you have granted to us the exclusive use of your system of pulverizing for our industry, together with the right to sub-license to others, but who those others shall be, is solely in our discretion.

In order that our right to sub-license be not minimized in value, we must insist that you do not discuss with others the fact that we have sub-licensed certain people, or even the extent to which we and others in our industry are utilizing your invention.

It is our suggestion that where others may be interested in obtaining a license for the processing of titanium materials, that you merely say to them that you are sorry, but you are not in position to negotiate on that product with them, for the reason that you have already granted an exclusive license to us.

Exhibit 449

We trust you will appreciate our position in the matter and do nothing which will in any way be detrimental to our enjoyment of the exclusive license for which we have contracted with you.

Yours very truly,

Manager

Exhibit 475

No. 1614

January 8, 1934.

Mr. J. L. Turner, Research Laboratories, Bklyn., N. Y.

L. E. Barton

CONFIDENTIAL

Dear Turner:

I have your letter of January 4, 1934, relative to the set of methods for the Krebs Corporation.

Our relations with the Krebs Corporation make it necessary for us to reciprocate in regard to the matter of exchange of methods, as we planned, and I personally think it would be a great mistake not to include some reference to the testing of our pigments by observing their properties in vehicles.

I am in agreement with you and Robertson that we should not send them the mass of data which Robertson has compiled for use in our own laboratories in connection with our research work, but I believe we should include one or two, according to Robertson's judgment, comparatively simple tests which we use in a routine way for first rough classification of pigments into good or bad. I believe it will eventually react to our advantage if the simple methods supplied are an improvement on such methods as have been given to us by Krebs. If such methods as we supply indicate superiority over competitor products, I cannot see that this makes any difference, for they already know all about our products and probably are as competent as we in the evaluation of pigments.

I understand that Jacobson has been using in a routine way a vehicle designed by Robertson, and that the method

and materials employed by him have given better results than can be obtained by use of the vehicle recommended by Krebs for texture and dispersion tests. It would seem to me that to supply such a method would be entirely satisfactory, but, at any rate, I would like to have Robertson select a proposed method or methods to be inserted in the set we are preparing for the Krebs Corporation. As soon as I have this, I will submit it to the Technical Committee and others before sending it to Krebs.

Very truly yours,

LEB:CGY
cc: BUR
GWT

Exhibit 476

Letterhead of

KREBS PIGMENT & COLOR CORPORATION

"CONFIDENTIAL" February 19, 1934

Mr. L. E. Barton,
Titanium Pigment Company,
111 Broadway,
New York, N. Y.

Dear Mr. Barton:

A question has come up as to how much information your company may have upon the production of a rutile type of pigment TiO_2 of increased hiding power. I shall appreciate very much a brief summary of your company's experience along this line and your own opinion as to the possibility of producing white rutile TiO_2 pigment commercially.

Our own previous work has indicated extreme difficulty in producing a *white* rutile pigment from titanium sulphate solutions—by high temperature calcination the rutile crystal form can be produced but is accompanied by loss of color. On the other hand, white rutile can be produced from titanium tetrachloride solutions but the process seems to be too expensive for competition with present TiO_2.

Very truly yours,

KREBS PIGMENT & COLOR CORPORATION.

JAMES E. BOOGE,
White Pigments — White Pigments.

JEB:MP

Exhibit 477

Rm. 1814

February 23, 1934.

"CONFIDENTIAL"

Dr. J. E. Booge, Research Director—White Pigments
Krebs Pigment & Color Corporation
256 Vanderpool Street
Newark, New Jersey

Dear Dr. Booge:

I have your letter of February 19, 1934, on the subject of making white Titanium Oxide having Rutile structure.

Judging from the second paragraph of your letter, I might summarize the situation by saying that our experience has apparently been quite similar to your own. We know that by calcination at higher temperatures there is a tendency to the formation of Rutile structure, and an increase in hiding power, but with a decrease in the brightness of the product.

Some years ago we conducted a large amount of experimental work at Niagara Falls on the addition of materials to the titanium compounds prior to calcination, with the object of accelerating the conversion of octahedrite to Rutile at lower temperatures. We found that the development of Rutile structure could be accelerated without excessive temperatures, yielding products which were of fair color and good hiding power, and which showed by X-ray examination the presence of a considerable amount of Rutile.

An application for patent was filed covering the process, but was finally rejected on the Blumenfeld French Patent

Exhibit 477

602,053, which I believe corresponds to your United States Patent 1,892,693, granted to Blumenfeld January 3, 1933.

Our present industrial methods of making Titanium Oxide may be said to include the step of accelerating the conversion of octahedrite to Rutile by the addition of small amounts of salts prior to calcination. However, in the effort to maintain maximum brightness, we probably do not develop a large amount of Titanium Oxide having the Rutile structure. Possibly further study along this line may result in improvement of hiding power without sacrifice of color.

I shall be very glad to discuss this matter further with you at the next meeting of the Titanium Committee.

Very truly yours,

TITANIUM PIGMENT CO., INC.

L. E. BARTON

LEB:MCY

Exhibit 478

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

October 19, 1936.

CONFIDENTIAL

W. C. Beschorman, Exec. Vice President,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Beschorman:—

We have recently heard from abroad that a chalk resistant titanium dioxide pigment is on sale in Germany, which is reported as containing 1% of a treating agent which serves to reduce the natural chalking tendency of the pigment.

Inasmuch as I understand your associate in Germany to be the only producer of titanium dioxide in that country, I am wondering whether you have heard of it, and if so, would it be possible to obtain a sample for us? We would be interested in examining the product.

Possibly you know all about it. At any rate, if not, you might want to look it up for yourselves, and we would certainly be glad to examine such product.

Trust this finds you feeling real well and everything going nicely, and with kindest regards, remain,

Very truly yours,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 479

October 20, 1936.

Mr. C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. DuPont de Nemours & Co.
Wilmington, Delaware.

Dear Mr. Rupprecht:

I am in receipt of yours of the 19th regarding information from abroad regarding a chalk resistant Titanium dioxide pigment which is on sale in Germany.

Frankly, I knew that they were working on an improvement which would retard the chalking of Titanium dioxide but I had not been advised that the experiments had been completed to the point where it would be on sale there, at the present time. I will look into this matter and advise you just as soon as I hear.

If your happen to be up this way the latter part of this week, or next week, I shall be very glad to see you as there are one or two matters I would like to take up with you.

Very truly yours

W. C. Beschorman
Executive Vice President.

Exhibit 480

Letterhead of

TITAN COMPANY, INC.

Paris, October 21st 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Many thanks for your cable of yesterday, as follows:

"YOURS NUMBER TWENTYSEVEN
"INFORMATION FROM BOOGE REGARDING
"OUR ARRANGEMENTS ABSOLUTELY
"CORRECT AND YOUR ACTION IN FOLLOWING
"THIS LINE IS PERFECTLY SATISFACTORY.

I am glad to note its content and will have it in mind when Dr. Booge and Mr. McBerty visit me on Monday and Tuesday next week.

I am enclosing, for your information, copy of my letter to Mr. Stopford of October 13th regarding the same matter, which may interest you.

With kindest regards,

Yours very truly,

G. JEBSEN

I had not in mind to doubt the correctness of Dr. Booge's information.

Exhibit 480

Paris, October 13th 1937.

GJ/AK

C. J. Stopford Esq.
British Titan Products Company Ltd
Billingham
Co. Durham

Dear Mr. Stopford,

My best thanks for your letter of October 11th.

Mr. Tasker's suggestion is very interesting. It should be seriously considered. The name "Rutilox" may bring people to think it is produced from natural Rutile. It leaves a wrong impression. Otherwise it seems quite good.

I am afraid Mr. Cash has misunderstood my conversation with Dr. Booge. I asked Dr. Booge straightaway, Thursday evening, to what extent information was exchanged between the National Lead Company and Du Pont, and I referred particularly to some talk I had with Mr. Beschorman on this matter in August, regarding an extension of such exchange to research. Mr. Booge told me that about a fortnight before he left it had been agreed that exchange of information regarding research work should be undertaken as follows:

1) Information to be given when a sum of $5,000.—for equipment in a plant or pilot plant has been sanctioned—but new pigments excepted.

2) When a new quality is put on the market, information is given a week or a fortnight in advance, but no information during the development work.

This is due to the consideration that the inventor company ought to have some advantage in introducing a new quality and that in this way it will take some time for the other party to catch up with the development.

Dr. Booge told me that this was due to the commercial competition on the United States market. He thought that, as there was no competition between Du Pont and ourselves, the situation here was different and he said that he was quite willing to exchange information on Tetrachloride, with which I understood he meant pigment made from Chloride solutions. They were working with this.

I asked him how they dealt with patent applications when the second partner started in with experiments on a development communicated by the first partner. In such cases applications may easily interfere and do harm. I had the impression that they had not much experience in this respect, but Dr. Booge said that they in such cases communicated with each other and tried to cooperate. I told him that this matter would be considerably more difficult when we are on each side of the Atlantic.

Dr. Booge thought that in the Chlorine matter they had still several years of work before them, before coming to any results, he was quite willing to talk about this. I did not enter into his suggestion.

You will realise from the above that it will be contrary to the spirit of the Du Pont/National Lead Company understand to give information on our latest development of pigments with high tinting strength as well as the process

Exhibit 480

leading up thereto, at this stage, which I suppose that Dr. Booge also will realise by nearer consideration.

From a remark from Dr. Booge about the cost of a pigment from Tetrachloride, it appeared that he has no idea of our latest developments with Sulphate solutions.

I told Dr. Booge that he would be given information on everything introduced in the factory and, as I mentioned to you and Cash, I think you can also talk about the pigment containing 1% of Antimony of which I understand you have made about 20 tons in the factory.

Re Patent Meeting, Friday morning.

I met Dr. Fisher before the meeting and he made the remark that he was hopeful that any divergent opinions would be straightened out.

I told him at once that this was not the chief purpose of the meeting but this invention was of greatest importance and it was therefore desirable that it should be considered from all point of views, not only as to patenting the developments made but also to consider all possibilities of competitors finding means to get around a patent and I hoped that by bringing these people together from various companies, suggestions and possibilities might be brought forward and discussed, beyond those which had been considered by the people who had developed the matter hitherto.

Dr. Fisher told me he had not understood that the patents were of such great importance and evidently was greatly interested in having the meeting. I understood from Ravnestad that it was quite successful.

I was very glad to note the spirit generally prevailing at the meetings and particularly that the small fellings here and there did not prevent open discussion and the wish

from all sides to contribute to the best of their ability. In this manner we ought to achieve the best results in the quickest way and I am glad that you also noted that the members of the various companies get still closer together at each meeting.

I understood that Dr. Booge and Mr. McBerty hoped to arrive in Billingham at the end of this week and intended to spend one or two days of next week in Billingham, then to attend to some other things in England, and that we shall meet here on Monday the 25th. I suppose you will have heard from them by the time you receive this letter. It is rather difficult to get hotel accommodations at present and I suggest that you make your reservations as early as possible. We shall be glad to help you if you will let us know. I asked Dr. Raspe to tell Dr. Booge to advise me of his wishes in this respect, if I can be of any assistance to him in the matter. Perhaps you will be good enough to remind him of this.

With kindest regards,

Yours sincerely,

sign. G. JEBSEN

1499

Exhibit 481

November 5, 1937.

C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

Dear Mr. Garesche:

Miss Ashworth called me late yesterday afternoon, advising that you and Dr. Kuhne would spend next Monday with us here in Wilmington, and I am very glad of the opportunity to meet Dr. Kuhne and show him every possible courtesy while here.

Arrangements have been made for rooms at the Hotel, where we will of course expect you both to be our guests, and I will plan to meet you in front of the main dining room at eight o'clock on Monday morning for breakfast. We can then decide upon a program.

Of course, our Edge Moor titanium and Newport lithopone plants are both in close proximity to Wilmington, and the morning could be spent at one and the afternoon at the other. To get in Wilmington and Baltimore in one day would be considerable of a task and make it all very hurried, but, we would naturally be very glad to have Dr. Kuhne stay over if he can. Furthermore, if he would care to see our Newark lithopone plant he has a most cordial invitation to do so.

While Dr. Kuhne is here I do feel he should meet several of our Executives, although I find a number of them will be away on Monday, but I plan to invite a few to lunch that day, because we will have to take time out between

the two plants for lunch anyway, and I am hoping this will be agreeable to him.

Looking forward to seeing you both on Monday, I am

Yours sincerely,

C. H. RUPPRECHT.
C. H. Rupprecht.

CHR:s

Exhibit 482

November 9, 1937.

Mr. C. H. Rupprecht, General Manager,
Krebs Pigments Division,
E. I. DuPont de Nemours & Company,
Wilmington, Delaware.

Dear Mr. Rupprecht:

I want to express to you my appreciation of the many courtesies which you extended to Dr. Kuhne and me in Wilmington yesterday. Dr. Kuhne, I know, enjoyed his visits with you at both Edgemoor and Newport and, I feel, was particularly pleased that everything was shown him and that information was given him without reservation.

Again many thanks for the regal reception.

With kindest regards, I am

Sincerely yours,

C. F. Garesche

Exhibit 483

Letterhead of

TITAN COMPANY, INC.

Paris, September 8th, 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111. Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I herewith take pleasure in introducing Dr. Max Mayer, formerly head of the Verein für Chemische und Metallurgische Produktion, Aussig, now adviser to the Company.

Although you have not met Dr. Mayer personally, you are from our conversations so well acquainted with his activities that I need not extend on these. Dr. Mayer told me, as you will remember, that he was particularly interested in Titanium and Sulphuric Acid in connection with his visit to the United States and I am certain you will be pleased to meet him personally and put him in touch with various members of our organisation.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 484

GJ/HS.

(RADIO FRANCE)

Copie du télégramme envoyé le
Copy of cable sent

21 Decbr. 1937

GARESCHE
LEADCO
NEWYORK

FRIENDLY BUSINESS RELATIONS BUT NO TECHNICAL EXCHANGE BETWEEN KUEHNE AND MEYER IN TITANIUM MATTERS STOP KUEHNE AND I AGREE MEYER SHOULD NOT SEE TITANIUM FACTORY LETTER FOLLOWS

JEBSEN

Exhibit 485

January 6, 1938

Dr. G. Jebsen,
Ste: Industrielle du Titane,
26 Rue de la Pepiniere,
Paris, France

Dear Dr. Jebsen:

On January 4th, Dr. Mayer visited our sulphuric acid plant at Sayreville. We showed him everything about the process which was of interest to him. We also took the occasion to have a group of our technical men meet with him to discuss improved methods for making sulphuric acid, as well as technical difficulties that were being encountered. We found Dr. Mayer to be very keen, and I am sure that our men were stimulated by the conference with him. We also showed him through our Research Laboratory, but did not take him through any portion of our titanium plant, explaining to him that certain licensing agreements did not give us the right to do so.

In our discussion with him, he told us that Aussig had developed a method for making a rutile pigment from sulphate solution. Although the details of the process are secret, he did say that no halogens were used, but that the pigment was precipitated under such conditions that upon calcination the anatase was converted into 100% rutile. He claims the resultant pigment is about as bright as the regular anatase produced at Leverkusen, but not quite as bright as the Aussig product. Its tinting strength is 160 vs. 110 for anatase. It has a slight yellow cast. By this method there is no waste acid disposal problem, other than that which is entailed in the anatase process. He said they are

now building a small scale plant for the production of this pigment which will produce from 300 to 400 kilos per day. I asked him if there was any objection to passing this information back to you, and he said there was none. If you have any more information regarding this pigment, we would appreciate having it.

I appreciate the situation as regards closer cooperation with the Blumenfeld group and feel that if it can be accomplished along the lines you indicate, it would be well worthwhile. When the matter has become more crystallized, I am sure you will wish to present it to Mr. Beschorman for his thoughts.

Dr. Mayer will be in the United States until late March and we will probably see more of him. We enjoyed meeting him and believe that we have handled the situation just as suggested by you. Our relations have been very cordial, and I feel that we both have been benefited by the discussions.

Wishing you a very Happy New Year, and with kindest regards, I am

Yours very truly,

(signed) C. F. GARESCHE
Manager

cc- Mr. Beschorman

Exhibit 486

Letterhead of

E. I. Du Pont de Nemours & Company

Copy to J. E. Crane
W. R. Swint
C. H. Rupprecht
E. A. Rykenboer

January 7, 1938

Dr. F. Sparre, Director
Development Department

In New York yesterday I met Dr. Max Mayer, General Director of Verein für chemische und metallurgische Produktion. Aussig a/ Elbe, Germany. I believe representatives of this company have been to see us before but never Dr. Mayer. Sometime in the next month or two he is going to come down here and I promised to bring him to you and you would see that he met the proper people, including the Foreign Relations Department, and possibly members of the Foreign Relations Committee, and also the individual departments involved.

He says his company is keenly interested in synthetic resins and of course I told him that we likewise had an interest in this and therefore had something in common and that we would be glad to discuss it with him.

He also told me that in the electro-chemical operations they have a wide interest and no doubt R. & H. or possibly other divisions of the Company might be interested.

I understood him to say also that they have done a lot of work in the use of ethylene and other gases from petroleum.

And finally, they are interested in pigments. Dr. Mayer said he would like very much to see our Baltimore and

Exhibit 486

Wilmington Titanium plants. As you may know, he is on the Blumenfeld side of the Titanium patents and it was his representative that originally constructed the Baltimore plant for Mr. Ticknor. I undertook to tell him with respect to Titanium that I doubted very much whether he could have permission to see our Titanium operations. He then suggested that he is also interested in Lithopone.

When he volunteered the information that they are very definitely opposed to doing business with the I.G. on Titanium, I pointed out to him that we had some sort of relationship with National Lead and that inasmuch as National Lead were close to I.G. on Titanium he could very well see that discussions back and forth between us on Titanium would interfere with his own very definite, set policies. I, therefore, took the liberty of very definitely discouraging any hope that he might entertain of getting anywhere with our Krebs Pigments Department on this score, even though I assured him that in the beginning and in the end this was entirely Mr. Rupprecht's province and that I had nothing whatever to do with it. I felt that this would make it easier for Mr. Rupprecht when Dr. Mayer finally put in an appearance here.

Dr. Mayer said that they have their costs on Titanium down to a point where they make a kilo for 16¢, which would be under 8¢ a pound. He was somewhat apologetic about this cost, explaining that they only make 1000 tons per annum, and adding that if they had an output like ours he could really make a cost.

He also says that they have practically and definitely worked out the Rutile method of manufacture.

WR:M

WM. RICHTER

Exhibit 487

Patent Interferences November 17, 1938.
Mr. G. F. Garesché, Manager
J. L. Turner

Dear Mr. Garesché:

The following is a history of recent patent interferences which have occurred or are expected to occur in the near future with the Krebs Division of the duPont Company:

1. The first case came up some time ago and at that time did not arouse any suspicion on our part with regard to the policy which the Krebs Company intended to pursue. On November 5, 1936, we filed an application in the name of Asgaard (our Case T164, Application U. S. Ser. No. 109,315, filed November 5, 1936) which dealt with the treatment of titanium dioxide pigment with alkali metal aluminates, principally sodium aluminate. On November 2, 1937 the Krebs Company filed an application in the name of McKinney (U. S. Ser. No. 172,378, filed November 2, 1937) dealing with the same subject. The two applications were placed in interference by the United States Patent Office as a result of which we compared our laboratory notebooks with their's and conceded the priority to Krebs. However, it may be noted that Krebs did not file a patent application until a year after we did and in the light of subsequent developments it might be well argued that they did not recognize patentability until after we had initiated an application.

2. The second case is that of the Rutiox process patent filed by the Titangesellschaft in the name of Tillman (our Case T187, U. S. Ser. No. 204,838, filed April 20, 1938). As you remember, Dr. Jebsen on his last visit here arranged

an exchange of patent applications between the Titangesellschaft and Krebs as a result of which in May of this year Mr. Kaegebehn mailed to Dr. Booge all of the Titangesellschaft applications then pending. On a subsequent visit to Wilmington the question of the German applications and particularly of this one came up. Dr. Booge informed me that certain claims in the patent application covered work previously done by Krebs, therefore he intended to file an application covering the same subject, and that when the case came up in interference proceedings he would then undoubtedly establish his priority. In view of Dr. Jebsen's effort to establish friendly relations between the British and German Titan companies on one side and Krebs on the other side, this contemplated action on the part of Dr. Booge disturbed me considerably and in order to clarify the situation a trip was made to Wilmington in company with Mr. Kaegebehn in order to convince Dr. Booge of the undesirable effects of the course which he intended to pursue. Our discussion at that time is best reviewed by quoting from a letter written by Mr. Kaegebehn to Dr. Jebsen.

> "Mr. Turner and I made a special trip to Wilmington to look into this situation. We found that there was no possibility of dissuading duPont from filing an application which might conflict with our application in Case T187 because, we were informed, all divisions of duPont are under specific orders from the Executive Committee to file patent applications on everything which might possibly contain patentable subject matter. In the course of this conversation, Dr. Booge admitted that they had previously regarded their work as unpatentable. The im-

plication is inescapable that the possibility of patenting was suggested to duPont by the knowledge of our application in Case T187.

"Their experimental procedure, however, differs from the application in Case T187 in that they first neutralize titanium tetrachloride with alkali and redissolve the precipitated orthotitanic acid in hydrochloric acid. This feature was specifically left out of our application in Case T187 at my request because it is in my judgment too closely related to the already patented Kubelka procedure. Dr. Booge assured me that before they file the patent applications they would consult with me in order to be sure that their case would be as free as possible from interference with Case T187, and I told Dr. Booge that at this consultation Mr. Hutz should be present as a representative of Titangesellschaft."

To-date we have not heard anything further from Dr. Booge. However, we have here a definite statement of duPont policy to the effect that they will file patent applications corresponding to ours if they find any substantiation in their laboratory work for claims whether or not they had previously recognized the patentability of such work.

3. During the latter part of August of this year we received copies of several patent applications made by Krebs. One of these is in the name of Booge (U. S. Ser. No. 215,220, filed June 22, 1938) and in claim 3 states the following:

"3. A process for producing a stable, weather-resistant and rutile-converted titanium dioxide pig-

ment comprising calcining, at a temperature ranging from about 600 to about 1100° C., titanium dioxide in substantially anatase crystalline state, in the presence of a minor amount of a zinc compound which is non-volatile under the prevailing calcination conditions."

This application is anticipated by Titangesellschaft application (our case T157, U. S. Ser. No. 137,494, filed April 17, 1931 in the name of Lederle and Brill) and two of our applications namely, Cole (Case T204 U. S. Ser No. 157,886, filed August 7, 1937) and Cole and Nelson (Case T205, U. S. Ser. No. 157,888, filed August 7, 1937). It is anticipated that the claims of the Krebs applications will lead to interference proceedings in the Patent Office with one or more of the above three applications which were made by us about a year previous. The typical claims of our patent applications are as follows:

"g. Process for preparing white pigments resistant to chalking comprising calcining a titanium compound of the group which consists of zinc titanates and starting mixtures of an oxidic zinc compound and an oxidic titanium compound yielding a zinc titanate on calcining to a temperature above 840° C. until by x-ray analysis the presence of a substantial amount of rutile can be detected" (U. S. Ser. No. 137,494—Lederle and Brill).

"1. A method for preparing a pigmentary composition containing rutile titanium dioxide, which comprises forming an intimate and uniform mixture of anatase titanium-oxygen compounds and an inorganic compound capable of reacting in the solid

phase with the said anatase titanium-oxygen compounds to form a solid combination, possessing a critical thermal stability point, and which combination is capable of decomposing on heating without change in phase, and heating the said mixture at temperatures above the critical thermal stability point of the said combination, thereby to convert anatase titanium-oxygen compounds to rutile titanium dioxide" (U. S. Ser. No. 157,886—Cole).

"1. Method for accelerating the thermal conversion of anatase titanium-oxygen compounds to rutile titanium dioxide, which comprises intimately mixing a reactive zinc compounds with anatase titanium-oxygen compounds in such proportions that the ZnO content is between from about 0.5 per cent to less than 67.0 per cent of the total weight of TiO_2 and ZnO contained in the mixture, and heating the said mixture at temperatures above the stability point of a selected solid solution of titanium dioxide in zinc orthotitanate" (U. S. Ser. No. 157,888—Cole and Nelson).

The above patent applications cover the process of manufacturing Titanox"-A-"N, C," and Ti-Pure "O" and may be considered, therefore, to be of importance in the patent structure of either company. In view of the considerably earlier filing date of our patent applications and likewise in the light of the contemplated action by Dr. Booge in the case of the Rutiox patent, it seems more than probable that our applications suggested to Dr. Bodge patentable features in their own laboratory work which they did not originally recognise. Of course, until interference proceedings are

instituted in the Patent Office, we have no means of knowing which of the two companies can demonstrate priority of conception and reduction to practice. This, however, is immaterial at this time for the question to be dealt with is that of principles rather than that of facts. The similarity of the three cases leads us inevitably to the conclusion that our patent applications called Krebs' attention to experiments which were not considered of sufficient importance to merit a patent application. However, as soon as our applications were received their abandoned experiments suddenly acquired a new value meriting the filing of patent applications in the hope that priority could be proved in interference proceedings.

4. While the above cases dealt with patent applications similar to ours and filed considerably later than ours, the following case is much more flagrant in that it deals with patent applications on a development which was successfully prosecuted by us in our plant after several unsuccessful attempts to achieve the same result were made by the Krebs Company. I am referring to two applications, namely, U. S. Ser. No. 233,747, filed on October 7, 1938 in the name of Kramer, and U. S. Ser. No. 233,749, filed on October 7, 1938 in the name of Krohma. These two applications cover circulation of mud and circulation of clarification reagent, both at digestion.

The first experiments at Sayreville on mud circulation were started on March 31, 1938, the first plant scale test being with digestion batch BD-3 on that date. On June 9, 1938, antimony clarification was started in the plant without the circulation of residues. On June 23, 1938 the first residues containing antimony were circulated. This method

of operation was made by us subject of a patent proposal. Case T97, on April 20, 1938, and a patent application has been prepared in draft form.

As a rule, process changes of the above kind are freely discussed by us in conversations with Krebs' representatives, and therefore the latter were fully advised of these developments. In the course of conversations, it has been mentioned several times by Krebs' representatives that mud circulation had been attempted by them, but with unsatisfactory results because invariably troubles in clarification occurred. When our development reached its final stage, considerable interest was displayed by Krebs both in the method of mud circulation and the reuse of antimony sulfide in clarification, especially on account of the obvious economy of the process. As a result of this, Dr. Kramer was sent here to observe the process, and stayed with us two days in the plant. This visit occurred either during the last week in August or the first week in September, and was followed by the two patent applications mentioned above, filed on October 7th.

Here again we deal with an abandoned experiment for the admitted reason that it was unsuccessful; however, as soon as a similar idea leads to successful results in our hands, patent applications are filed again in the hope that priority could be proven in the eventual interference proceedings.

5. Some time ago Mr. U. E. Bowes of the Owens-Illinois Glass Company disclosed to Mr. Meredith a process for the decomposition of ilmenite with dry hydrogen chloride gas. At that time Mr. Bowes informed us that he was not free to offer the process to us because other

parties were interested, and he had to wait for a definite answer from them before proceeding with us. Suspecting that these other parties might be Krebs Company, I discussed the process with Dr. Booge, and was informed that the Krebs Company was not approached by Mr. Bowes. However, this discussion was followed in due course by a patent application, U. S. Ser. No. 200,748, filed in 1938 in the name of Dr. Booge, covering just such a process. While, probably, it is not fair to draw any conclusions, nevertheless, this application gives the appearance of more than pure coincidence.

6. There is one case in which it might be thought that we are guilty of the same practice as Krebs. Recently we have filed an application, U. S. Ser. No. 237,462 (Oct. 28, 1938)—Nelson and Martin, which is similar to their application U. S. Ser. No. 145,930 (June 2, 1937)—Booge. Both applications cover the use of sodium pyrophosphate and hexametaphosphate as dispersing agents for titanium dioxide pigments. However, we believe that our application is broader and has greater possibility of being brought to issue because we disclose, and claim the effectiveness of sodium hexametaphosphate for dispersing titanium dioxide in water containing calcium and the possibility of pulping titanium dioxide from aqueous dispersions into oils in the presence of these phosphates. It might also be noted that the subject matter of our application is included in our patent proposals Case P56 and Case P60 of January 29, 1937, and February 1, 1937, respectively, which refutes any thought that we did not consider patenting until after seeing their application.

Very truly yours,

JLT/pr

Exhibit 488

CC: Mr. C. H. Rupprecht

December 4, 1939

CONFIDENTIAL

Mr. C. F. Kaegebehn
National Lead Company
111 Broadway
New York City

Dear Mr. Kaegebehn:

We submit herewith two copies of each of the following patent applications:

Case #956-K Ser. No. 294,654—Bichowsky & McKinney, Titanium Oxide Production

" #936-K Ser. No. 295,049—Keats, Production of TiO_2 Pigments

" #938-K Ser. No. 296,069—Keats, Production of Titanium Pigments

" #944-K Ser. No. 299,106—Peterson, Titanium Oxide Pigment Production

" #964-K Ser. No. 302,850—Star, Titanium Liquor Hydrolysis

You will note that the above applications pertain specifically to titanium compounds. Our Legal Department has called to our attention that the license field of the agreement of January 1, 1933 is limited to titanium compounds and does not permit the inclusion of processes or information relating to the production of extenders per se. Thru inadvertence on our part, some extender cases have been submitted to you but in the future we shall be required to

conform to the limitations of the license field as expressed in our agreement.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY
KREBS PIGMENTS DEPARTMENT

J. E. Booge
J. E. Booge
Technical Director

JEB:DEE

More informative titles of the above cases are:

Case 956-K—Bichowsky & McKinney—Rutile from Titanium Sub-Oxide

936-K—Keats—Lithium Salt Treatment of TiO_2

938-K—Keats—~~Pressure Hy~~drolysis of Titanium Salt Solutions

944-K—Peterson—Rutile by Calcination in Presence of Alkaline Earth Chloride

964-K—Stark—Negatively Charged TiO_2 Sols as Hydrolysis Nucleating Agents

Exhibit 489

December 6, 1939

CONFIDENTIAL

C. L. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

My dear Mr. Garesche:—

A copy of letter from our Dr. J. E. Booge to your Mr. Kaegebehn, dated December 4, 1939, has just crossed my desk, which forwards in the customary manner a number of recent patent applications filed by us

The letter also mentions that no applications are being forwarded which refer to extenders only, and no doubt this will be brought to your attention. As a matter of fact, I have never been aware that any extender cases were being forwarded, as they certainly were not within the scope of the licensed field, as per our agreement of January 1, 1933, which covers titanium compounds containing more than 2% of the element titanium.

Apparently someone in our organization at some time simply sent extender cases along, which our Legal Department has discovered and called to our notice as being outside of the licensed field. To my best knowledge we have not received any such cases from you, nor would we expect any under the agreement.

I was surprised to learn from Dr. Booge's letter that the licensed field of the agreement had not been correctly construed by our technical people. Insofar as extender

cases and information already transmitted to you are concerned, if you desire, I shall arrange to have your right to use such information and processes officially approved.

With kindest regards, I remain

Very truly yours,

General Manager.

CHR:s

Exhibit 490

Letterhead of

NATIONAL LEAD COMPANY

December 11, 1939

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department,
E. I. duPont de Nemours & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

Since receiving your letter of December 6th, I have given careful consideration to the question of the interpretation of the Licensed Field of our agreement.

As far as I have been able to learn, it appears that the practice of exchanging patent applications relating to extender pigments began early in the cooperation. The exchange, apparently, was based upon a liberal Licensed Field interpretation, which was to the effect that if the extender pigment was intended for, or adapted to, the manufacture of composite titanium pigments, it could be construed as coming within that part of the Licensed Field which relates to methods of making titanium compositions useful as pigments, the rights exchanged being, of course, limited to the manufacture of extender pigments for use only as a constituent of a composite titanium pigment. Thus, we passed on to you copy of our still-pending application No. 5317, filed in February, 1935, which we understand described the anhydrite calcium sulfate which forms a part of both "TITANOX"-C and "TICAL". Subsequently, we both continued to exchange

extender-pigment patent applications wherever such extender pigments were intended for the manufacture of composite pigments.

It is our feeling that mutual benefits and protection result from the above interpretation of our agreement. I hope, with the limitations as outlined, that continuance of the exchange may meet with your approval.

With kindest regards,

Yours very truly,

C. F. GARESCHÉ
Manager.

Exhibit 491

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

MR. Z. PHELPS — December 18, 1939

KREBS—NEMOURS BL.

As requested, I attach copy of draft* of letter which Mr. Rupprecht might transmit to Mr. Garesche with whatever appropriate changes he considers desirable.

If Mr. Garesche continues in his position that extender inventions are embraced under our exchange, I would suggest that we refrain from further letter writing, and that Mr. Rupprecht and Mr. Garesche get together in a conference in order to iron out difficulties and come to an understanding. In fact, a paragraph might be added to the accompanying letter requesting such discussion.

We could include a paragraph in the letter to Mr. Garesche to the effect that if and when the parties produce an invention which is specifically directed to the production of a composite titanium oxide pigment, and the extender used therein is non-useful in producing the same result in other types of prime or base pigments, such invention could be considered as coming within the scope of the exchange contract. However, it might be better to refrain from committing ourselves as to such inventions in order that Mr. Rupprecht might proffer the suggestion during a conference which he may have with the Titanium pigments people.

John P. Hancock

JPH:H — JOHN P. HANCOCK

Enc.

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*"Not written" appears in longhand on face of exhibit after the word "draft."

Exhibit 491.

Mr, C. F. Garesche, Mgr.
National Lead Company
111 Broadway
New York City

Dear Mr. Garesche:

This will acknowledge receipt of your letter of December 11th regarding the scope of our January 1, 1933 exchange agreement.

As I noted in my letter of December 6th, I appreciate du Pont, in the past, has inadvertently submitted certain extender cases to your company. As to these, we desire to raise no question as to licenses. Now, however, we are required to confine our exchange to the field which is covered by our contract, i.e., to the production of titanium compounds containing 2% or more of titanium, whether said compounds are useful or non-useful for pigment purposes. As we view it, this does not embrace extender inventions per se, adapted to many, widely-varying uses, any more than it might be said to embrace the coating or zinc sulfide pigment art merely because conjoint use of titanium oxide is also contemplated therein.

We feel, therefore, that our intent to confine our future submissions to Titanium Pigments Company to those applications, the inventions of which come within the indicated licensed field, is entirely reasonable and in full compliance with our contractual undertaking. In like manner, future submissions on your part to us should be guided by similar considerations.

NOTE: "Not written" appears in longhand on face of this exhibit.

Exhibit 492

Letterhead of

NATIONAL LEAD COMPANY

Jan. 3, 1940

Baltimore and Edge Moor Trip
Mr. C. F. Garesché, Manager
F. J. Shirley

Dear Mr. Garesché:

Attached is a copy of notes made on a trip to Baltimore and Edge Moor in November. I did not have it typed at the time because of personnel comments.

Yours very truly,

F. J. SHIRLEY

enc 1

Exhibit 492

BALTIMORE

Trip Nov. 1-3, 1939

Ore Storage—

The volume of the ilmenite ore pile is being increased by making it 4' to 6' deeper overall. This added depth is being realized through the installation of a wooden retaining wall anchored in the periphery of the pile.

Ore Milling—

In order to realize a 70-ton packing rate, it was found necessary to increase the ore milling rate, sacrificing ore fineness. Currently they maintain a fineness of 14% retained on 325 mesh screen compared to past practice of 6 to 8% and to 7% to 9% at Sayreville. It was indicated that no loss of recovery at digestion has resulted, the present recovery being 92 to 93% compared to former 91½% to 92½%.

Digestion—

Digestion cakes which are solid and prove to be slow in dissolving are indicative of high recovery.

Violent reactions at digestion are said to be due to incorrect measurements of ore, acid, or weak acid.

The meters for the agitation air have given some trouble.

Venturi type air injectors installed in the bottom of the digestion tank did not live up to expectations due to the fact that they became plugged.

Hydrolysis—

The length of the steam coils in the hydrolysis tanks has been reduced by about 50% with no decrease in the

heating capacity. According to theory the last half of the coil, containing considerable condensate, did not transmit heat because of the resistance of the condensate film. We here have recently removed two coils from each of our four hydrolysis tanks as a result of Mr. Spilker's investigation in steam economy. These coils will be available for use in the new hydrolysis tank.

Steam used for preheating solutions is charged to the hydrolysis operation. Each individual hydrolysis tank is equipped with a steam meter and a check is maintained through the use of a master meter serving all tanks collectively.

Bleaching—

Schutte-Koerting live steam heaters were removed from the bleach tanks. They were replaced with 6" diameter perforated spargers. Steam at 75 p.s.i. flowing through a 1½" pipe is throttled to 25 p.s.i. at the spargers to eliminate vibration.

It is expected that the water jackets will be removed from the bleach slurry coolers. They will be replaced by salt water sprays in an effort to increase the efficiency and capacity of the coolers by increasing the rate of heat transfer. A decrease in cooling water is anticipated.

Wet Grinding—

The first of the two Proctor & Schwartz dryers has been delivered to the plant but not set up as yet.

For some unknown reason, their filtering rate on rotary filters in their wet milling department is considerably lower than ours.

Exhibit 492

Micronizers—

Approximately 600 tons of pigment corresponding to "TITANOX"-AA and "TITANOX"-A 168 grade have been micronized to date. The dust lost, due to the absence of secondary collection, averages about 7%.

Packing—

Forty-seven different types of packages are used to care for all grades of pigment and for variation in density. We use about twenty-two various kinds of bags.

Safety—

A record of 1,286 days without a "lost-time" accident was broken when an infection developed in the eye of a foreman several weeks after it had been burned with sulphuric acid. The burn occurred when the foreman looked upwards to locate a leak without the benefit of hat or goggles.

Special items of safety precaution were discussed including the observation that mirrors were used to advantage in blind gangways, etc.

Standards Engineering Dept.

The wage incentive plan has been in force for the past four or five years in the following departments:

Batch Attack
Clarification
Crystallization
Hydrolysis
Filtering
Calcination
Drying
Packing
Shipping

The mechanical and a few other departments have not yet been included under the system.

The success of such a system is based upon careful establishment of standards. Lacking experience and background, it is necessary to proceed slowly and carefully, applying motion study to each individual job rather than to departments as a whole. A standard is then set which must be correct and fair, lest the entire system be upset. A standard, so set, is maintained for an extended period, without change, of six months or more but seldom less.

Personnel—

A wage increase of 5% in the hourly payroll was made in September with each employee benefiting in some measure. A first-class operator now receives 95¢ per hour, a lead burner $1.35 per hour, and a minimum hiring rate of 56¢ per hour is established.

Athletics are encouraged by the management, the company buying all necessary equipment. However, no part is played in the promotion of such activities since it is deemed to be advantageous that the employees themselves sell the idea. Sports now included are: baseball, bowling, basketball and soccer.

Plant Union—

Several types of organizations have existed. At present they have an "Employees Bargaining Association" which replaced the former "Workers Council" with the advent of the Wagner Labor Act. The Employees Bargaining Association, which has 70 to 85% membership, is considered a vital and necessary institution. Outside unions have never made a concerted effort to organize this plant.

Exhibit 492

The officers of the Employees Bargaining Association consist of a president, secretary, and treasurer. In general, the Association is divided into groups, with each group represented on committee. Complaints are registered with the immediate foreman and communicated to the superintendent and then to the plant manager. Monthly committee meetings are held with Mr. Cantwell in attendance. Free use of all bulletin boards is available.

An employees association depends entirely on the foremen and upon foremanship for its success or failure. A newer plant presents difficulties in organizing and maintaining such an association.

Literature made available to foremen includes the Foreman's Management Library, published by the National Foremen's Institute.

Exhibit 402

EDGE MOOR

Trip Nov. 1-3,. 1939

Digestion—

The flow through the digestion stack (at reaction) is said to be of the order of 60,000 C.F.M.

Pigment Washing—

The use of Vinyon filter cloths on the Moore leaf filters may change the picture with regards to installing pre-coat filters.

Calcining—

As observed previously, the dewatering filter which feeds the calciner is equipped with electric. 'ly vibrated bars or knives running lengthwise of the filter which prevent cracking of the filter cake. This device has increased the solids content of the calciner feed about 3%. Mr. Wieneke hopes to accomplish the same results with less equipment.

A scheme under consideration involves the condensation and recovery of steam from the calciner exit gas Cottrells.

Dry Milling—

Good Housekeeping is said to provide ample justification for the use of a vacuum cleaner in the white department. It is also used for cleaning out mills, conveyors, etc. They recover approximately 50 to 60 lbs. of pigment per day which otherwise would be lost. The portable vacuum cleaner used for this purpose is made by the Spencer Turbine Blower Company of Hartford, Connecticut.

Packing—

A Risco auger type packer is to be installed at the Newport plant. This is a product of the Richardson Scale Company, Clifton, New Jersey. It uses a high speed special auger which deaerates as it packs. Dusting is eliminated by use of a pneumatic bag chuck.

Personnel—

A payroll increase of 7% was put into effect October 1, 1939 in anticipation of probable discontent.

Sample hourly wage rates of $1.25 for lead burners, and $1.02 for millwrights were indicated to be in effect, the minimum hiring rate being 60¢ per hour.

Sports are encouraged by the management especially those in which large numbers of employees may participate.

The Employees Association has a 60% membership and is considered to be for the good of all. Other types of collective bargaining are considered to be instruments for agitating over non-existant conditions.

Exhibit 493

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

C. F. Garesche, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, New York.

January 11, 1940.

Dear Mr. Garesche:—

I regret that my continued illness has prevented an earlier answer to your letter of December 11, 1939.

With respect to your statement as to use of your pending application No. 5317, I have asked Dr. J. E. Booge to submit a report, which I enclose for your information. From an examination of our practice over the last seven years, I find that both Companies have erred in that extender cases in a few instances were submitted, but insofar as this Company is concerned none of the Titanium Pigment Company's extended inventions have been used.

As you appreciate, the interests of this Company are so large and so complicated, that we must of necessity adhere to a strict interpretation of the licensed fields of our various agreements. Any other construction would lead to confusion and mutual dissatisfaction with all parties. Furthermore to broaden the scope of our agreement of January 1, 1933 would require approval by our Executive Committee, which I am confident could not be obtained.

I have given your letter serious consideration and believe that we must confine our exchange to the licensed field as expressed in the contract. This licensed field, as you

will perhaps recall, was drafted only after careful and long consideration by the technical people and executives of both parties.

With kind regards, I am

Yours very truly,

C. H. RUPPRECHT
General Manager.

CHR:s

Exhibit 493

COPY

Newport, Delaware
January 8, 1940

Krebs Pigments Department

MR. C. H. RUPPRECHT

INFORMATION ON $CaSO_4$ EXTENDER
T. P. Co. U. S. APPLICATION 5317

This will reply to your questions concerning the T. P. Co. U. S. application #5317. We have not used information from this application in our $CaSO_4$ process for "TI-CAL".

The T. P. Co. application was filed in February, 1935. Our $CaSO_4$ process was completely developed prior to the filing of the above T. P. case. Our $CaSO_4$ process was described in our own blended pigment application filed October 30, 1934 (patent issued June 30, 1936 #2,046,054). In other words, our process was completely developed and described in our application filed some four months prior to the above T. P. application.

Another point of differentiation is the fact that all the examples in the T. P. application include a large excess of sulfuric acid so that the mother liquor contains 15% to 25% free H_2SO_4. In our "TI-CAL" process we carry the neutralization much further, the mother liquor containing approximately 2.5% H_2SO_4. Obviously, we have not adopted the process described in the T. P. Co. examples. (As a matter of fact, I believe this T. P. application covers the $CaSO_4$ process used at St. Louis at that time. The T. P. Co. has since adopted our $CaSO_4$ process and is now using it at St. Louis. They have given up the process described in their above application.)

Exhibit 493

As a further sidelight on the $CaSO_4$ situation, we filed a specific $CaSO_4$ case April 20, 1935,—some two months after the T. P. case was filed. Our application described and claimed the procedure we use for making $CaSO_4$ for "TI-CAL". Our application issued as a patent in 1939 #2,151,339. The T. P. Co. application has not yet issued. The two applications were never placed in interference presumably due to the different procedures covered.

To summarize, we have not used in our $CaSO_4$ process any information from the T. P. Co. application #5317. Further, the T. P. Co. has adopted the $CaSO_4$ process described in our issued patents #2,046,054 and #2,151,339.

J. E. Booge
Technical Director

JEB:DEB

Exhibit 494

January 25, 1940

Mr. C. F. Garesché, President,
Titanium Pigment Corporation,
111 Broadway,
New York, N. Y.

Dear Mr. Garesché:

Enclosed is my file relative to Mr. Rupprecht's recent correspondence. My file copy of the Krebs agreement is also enclosed.

The notes on the "Licensed Field" situation were gotten together last evening and this morning coming down to Washington. They have not been polished up very much but I think they cover the ground fairly well. The presentation of our position could be somewhat strengthened by citing specifically the cases which, according to Mr. Rupprecht's view, would be outside the "Licensed Field" but which have already been exchanged. I will have to get such a list together early next week.

In connection with Mr. Kimball's suggestion, of a conference between the Du Pont Legal Department and ourselves, in the event Mr. Rupprecht does not see our point of view, it occurs to me that should he not wish such a conference he might reply to the effect that the legal Department has never liked this contract and he hesitates to bring it before them any more than he has to for fear they may insist upon a considerably more drastic revision. If

he does take this position, I think we should press him for a clarification of all the questions respecting the "Licensed Field" which his attitude with respect to extender pigments implies.

I hope these notes will be of assistance in preparation for your luncheon engagement with Mr. Rupprecht.

Yours very truly,

C. F. Kaegebein

CFK:jts
enc.

Exhibit 494

NOTES ON THE KREBS "LICENSED FIELD" SITUATION

The definition of the "Licensed Field" is contained in Article 1 of the agreement of January 1, 1933 which reads:

> "The term 'Licensed Field' wherever herein employed means and includes (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds, containing two per cent (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures, thereof, which can be used as pigments, whether or not adapted for other uses, and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adapted for other uses."

It is somewhat awkward to define a field in terms of "in the field of . . . " wherein the word "field" itself appears. We have always considered the definition capable of supporting an interpretation broad enough to include not only methods, processes and apparatus the sole purpose of which and whose only usefulness was in the manufacture of titanium compounds as defined in the "licensed Field" definition, but also methods, processes, and apparatus which could be used in the manufacture of titanium compounds as well as in other ways. It has been our understanding that it was the intention of the parties who drafted the agreement to bring about a very complete technical cooperation in which all developments relating to the making of titanium pigments, i.e. "in the field of manufacture" of titanium pigments, regardless of whether such developments were patentable or unpatentable or whether they had

other uses outside this field, would be exchanged between the parties. Conversations I have had with Dr. Thompson and others who participated in the negotiations leading up to the agreement confirm this understanding and, I believe, Mr. Turner also has the same view obtained by him in a similar manner. It was not the intention to withhold developments which, although useful in making titanium pigments, could be described, for instance, in the claims of a patent by language which did not include the manufacture of titanium pigments.

The actual operation of the cooperation, both technical and with respect to patents, during the past six years and more has been in accord with the interpretation we place upon the "Licensed Field" definition. Engineers and technicians of the parties have visited each others plants and obtained, and given, information concerning developments: (a) strictly relative to the making of titanium pigments and (b) useful in, but not limited to, the making of titanium pigments. Under category (a) would be information concerning any phase of the process of handling the titaniferous material from pre-digestion treatments of the ore to the final finishing treatments of the pigments. Under category (b) would be information concerning extenders, methods of making, purifying and concentrating sulfuric or other acid liquors, the adaptation, installation, operation and maintenance of equipment having usefulness aside from the making of titanium pigment. Naturally, the claims of patents covering developments under category (b) would not be directed to the making of titanium pigments.

Similarly, within the patent field the parties have exchanged copies of patent applications the claims of which

might not at all include any reference to making titanium pigments. The exchange has been largely confined to applications covering extenders but in two instances: McCord's patent for purifying waste acid liquors and Weineke's improved net wash water distributor for rotary filters, we have forwarded copies of the patent applications to Krebs.

Mr. Rupprecht's recent letters state that his legal department considers that extender information is outside the "Licensed Field". It may be inferred that this position is based on the theory that since methods for making extenders are not, per se, directed to making titanium pigments they are not "in the field of manufacture" of titanium pigments. If this assumption is correct, and it is suggested that Mr. Rupprecht be asked to clarify the position of his legal department in this respect; then it must follow that so also would all other information as to methods, processes and apparatus useful in but not solely directed to, the making of titanium pigments be outside the Licensed Field. Stated another way, according to what appears to be the interpretation of Mr. Rupprecht's legal department, no information which did not have as its sole object the making of titanium pigments, regardless of whether it was useful in connection therewith, must be regarded as outside the Licensed Field.

Thus at the present time, there has developed a divergence of views regarding the scope of the "Licensed Field." Mr. Rupprecht contends that any exchange on the part of Krebs of patent information, presumably also of technical information relating to extenders and outside the scope of the "Licensed Field" as interpreted by his legal department; was inadvertent and due to an error

on the part of someone in his organization. On our part, however, we have exchanged such information consciously and deliberately in the belief that we were acting consistently with the proper scope of the Licensed Field intended by the contracting parties.

In endeavoring to resolve differences of opinion as in the present case, arbitration bodies, e.g. the Courts, invariably look to the practices which have grown up between the contracting parties. We believe that the operation of the cooperation during the life of the contract thus far lends firm support to our position and this is true irrespective of whether Krebs, at this time, contends that their acts were inadvertent and due to an improper understanding on the part of someone in their organization. The present difference will, in all probability, not be submitted to arbitration but it could be pointed out to Mr. Rupprecht that we see implications in the situation which go considerably beyond extenders and are capable of exerting a farreaching adverse effect upon the whole cooperation. It is doubted that either party would, or could successfully, maintain that the other party has profited to a greater degree than itself as a result of the past operation of the cooperation. Nor, could it be argued that a development or a patent of one party contains no contribution from the other party merely because the technique or claims thereof appears on the surface to be distinct from the prior developments or patents of the other party relating to the same subject matter. The plant visits of each party's technicians and the examination of patent applications constitute a stimulation and an invitation to make improvements on each others' developments and patents which must be regarded as mutual contributions to a

healthy rivalry beneficial to both parties. It would therefore appear reasonable to affirm that a cooperation as diverse as possible within the broadest construction of the "Licensed Field" is in the interest of both parties.

To agree, at this time, to a delimitation of the "Licensed Field" or to admit as the proper construction a more limited one than we envision would tend to make the future technical cooperation extremely difficult. From the practical point of view, how would it be possible to limit plant visits only to the inspection of those stages of the process in which titaniferous material were being treated ultimately to produce a pigment? Furthermore, it is admitted that information and licenses relating to composite pigments are to be exchanged. It is known that the properties of a composite pigment often, in a large measure, depend on the properties of the extender it contains. It would appear inconsistent to give information and licenses as to composite pigments while withholding information as to an essential part thereof. It is, in effect, giving a right to the whole while withholding a right to a part of the whole. For instance, in Booge's "blended pigments" patent there is described a preferred method of making calcium sulfate. We have a license under this patent. The making of the calcium sulfate is covered in the Sullivan patent under which, according to Mr. Rupprecht's legal department, we do not have a license. Thus, the value of our license under the Booge patent is considerably lessened. In similar situations the Courts have held that a licensee is entitled to such information, including rights in other patents of the licensor, as is necessary to make the license effective.

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If, even after consideration of our position, Mr. Rupprecht feels that his legal department would still insist on excluding information as to extenders from the "Licensed Field" then it is suggested, that Mr. Rupprecht be asked to arrange a conference between his legal people and ours in order to examine all angles of the situation and to develop a construction of the "License Field" definition which can be accepted by both parties as fixing the limits of the cooperation.

C. F. Kaegebehn

Exhibit 495

February 19, 1940.

Dr. G. Jebsen,
Titan Company A/S,
Fredrikstad, Norway.

Dear Dr. Jebsen:

I want to, in strictest confidence, keep you advised of developments and progress in our cross licensing agreement with Krebs.

About three weeks ago, I had lunch with Carl Rupprecht, at which time he stated that his company was very much worried about their agreement with us, particularly insofar as it has to do with making available to each other full information regarding "skill of the art". He, therefore, has proposed that our agreement be modified to the end that this feature may be eliminated.

I told Mr. Rupprecht that we would take the matter under consideration and confer with him again, but that our feeling was that there was nothing illegal in such an agreement, it merely being for public benefit insofar as improvements were more quickly turned into lower prices to the public.

He has also raised the point that extenders do not come within the License Field, as they do not contain 2% of more of titanium and that, therefore, the licenses and information which we have to date exchanged, have been beyond what was contemplated under the agreement. We have the other point of view, i.e., that any extender which is made for the purpose of producing a pigment containing 2% or more of titanium comes within the broad scope of the License Field, but that any license which would be granted, would not permit the licensee to make an extender

to sell as such without titanium added. Our lawyers, in studying the matter, agreed with our point of view, particularly in view of the fact that we have both exchanged such information freely since the inception of the agreement. This circumstance has, we are told, much legal weight in deciding what was the intention of the agreement.

I have since had another conference with Mr. Rupprecht and have suggested to him, in view of their desires, that we would be perfectly willing to discontinue reciprocal visits to plants by our technical people, and that instead, "skill of the art" information could be transmitted from one party to the other only through a single designated official in each organization, and that even with them, plant visits would not be contemplated.

Apparently, this was not considered by him as a sufficient modification, but he has agreed to take the matter under advisement. He also agreed to assist in arranging for our legal representatives to get together and discuss the matter of extender pigments and whether or not they should be considered as having been contemplated in the contract.

Confidentially, as I see the situation, beneath the surface the Krebs company is very much chagrined by the fact that we have been making faster progress than have they. For a number of years, you know, they sold more TiO_2 equivalent than did we, but last year the situation was reversed when we sold 51.4% as their 48.6%. Their feeling is that we have benefited by Dupont's wide engineering experience and methods of plant operation, and that we have therefore progressed faster than we could have done alone. I think we can agree that there is no doubt but that we have been much benefited by the information obtained from plant visits, but we feel that they have been equally benefited, and probably even more so. It is our feeling, that an

elimination of such visits will be detrimental to both parties and that our efforts should be to maintain the status quo.

There is the other thought in our minds, that in view of our some twelve years' greater experience, we, in making available to them in the initial agreement, all knowledge acquired by us, have given them a running start and that now it would not be fair to us for them to propose elimination of this portion of the agreement, after we have given them everything that our experience had taught us.

At the moment, I cannot predict what will be the outcome, but it is more than possible that we may say to them that we do not feel their proposal is a fair one, then their alternative would be to exercise their right to cancel the agreement on three years notice. This would, of course, have an effect on your situation, insofar as you now have made available to us the cross licensing of patents. I hope that matters will not come to such a pass, but I want you to be familiar with the situation as it is developed, and I will be very pleased to have any thoughts or suggestions which may come to your mind.

Mr. Rockwell has shown me your letter of January 26th which I have read with much interest. I appreciate what trying times these are for your country and I hope the situation will work itself out without the necessity for your country being drawn into the war.

Please remember me kindly to Mrs. Jebsen. We will look forward with the hope that you will be with us next spring. In the meantime, my best regards.

Very truly yours,

C. F. GARESCHÉ

sign.

Exhibit 496

Letterhead of

NATIONAL LEAD COMPANY

March 26, 1940

Notes on Trip
Mr. L. D. Hagar, Asst. Manager
F. J. Shirley

Dear Mr. Hagar:

Attached are notes taken on a trip to Baltimore and Edge Moor the first part of February. Mr. Tipton accompanied me and is responsible for practically the entire compilation. This report, as others, is in considerable detail but contains information sometimes helpful here at the plant for reference.

The tabulation, referred to at the bottom of page 8 of the Baltimore notes, was sent to Mr. Garesché direct a few days ago.

Yours very truly

F. J. SHIRLEY

enc 1

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TRIP—FEB. 5-7, 1940

BALTIMORE

Production

Current production is 75 tons per day, 40 tons regular TiO_2 and 35 tons of Y and CR grades. The plant has recently operated at an 80 ton rate.

Recent production has been of the following grades:

FF	(Regular MO)	38.5%
FF-CR	(No. 168 MO)	2.6%
LW	(WD)	17.0%
	(Regular LO)	7.0%
CRLO	(No. 168 LO)	7.4%
	(Ceramic)	6.0%
Y-CR	(AA-LO)	9.3%
	Miscellaneous grades	12.2%

Ilmenite Ore

On January 1st the estimated wind loss was reduced from 3.0% to 1.0%, which is said to correspond more nearly to the actual loss. This change applies to both plants, and will increase the reported overall recovery.

The ore mill operates 24 hours per day at an output rate of approximately 6.5 tons per hour. The milled ore contains 11 to 12% plus 325 mesh.

Digestion

The present batch charge is 41,800 lbs. of ore and 63,000 lbs. of H_2SO_4. The latter is made up of oleum 60° Bé acid, and waste acids in a proportion to give 93% strength at reaction. 8,900 lbs. H_2SO_4 in the form of waste acids is the average amount used in the initial charge, with approx-

imately 7,000 lbs. H_2SO_4 (waste) used during dissolving, for a total acid recirculation of 20%.

Digestion conversion has been poor for the past two months (91%). No attempt has been made to recirculate residue. The opinion was expressed that poor dissolving characteristics of the cake, resulting in "dirty tanks", have hurt conversion.

Consumption of scrap iron (principally tin cans and terne plate) averages .25 tons per ton of pigment packed. Eight digestion tanks are in service. The overall cycle is 24-26 hours.

Air agitation is used as follows:

800 c.f.m.—batch mixing and reaction—1 hr.
None —curing period—3 hrs.
400 c.f.m.—quench acid addition and early dissolving—4-5 hrs.
150-200 c.f.m.—dissolving period—13-14 hours.
None —discharging batch—2 hours.
Total consumption (approx.)—298,000 cubic feet.

Clarification

Three 44 ft. Dorr tanks are used for primary clarification, with copper sulfate and iron sulfide as reagents. Antimony has not been used for clarification.

Final clarification (after crystallization) is effected by two wooden presses and a rotary precoat filter. Although the rotary filter was termed an improvement when installed, it is claimed that the presses are now more economical to operate.

Vinyon cloth is used for the two solution presses and for the three mud presses. The life of the cloth in this

service is estimated to equal or better that of the hair cloth formerly used, and the initial cost is much less.

On the precoat filter a wool base cloth is used, with Dicalite Speedplus filter-aid, and the glass take-off blades previously described. Vinyon cloth has not yet been tried on this filter. Glass cloths have been tried, but were said to fail by blinding in an uneconomically short time.

The reagents used, per ton of pigment packed are:

$CuSO_4$	—.01 tons)	primary clarification
FeS	—.005 ")	
Glue	—.001 "	mud washing
Glue	—1 lb. per 10,000 gals.)	final clarification
Filter-aid	—1 lb. per 10,000 gals.)	

Crystallization

A "delayed crystallization" procedure is used at Baltimore to produce larger crystal size, which, in turn, improves washing efficiency in the Bird centrifugals. A typical crystallizer batch operation (10,000 lbs. TiO_2) follows:

Time	Solution Temp.	In. Hg.	Operation
0	50°C.	29.0	Start charging
15′	50°C.	29.0	Solution charged
25′	46°C.	29.6	Booster jet on
45′	38°C.	29.7	Cryst. started, booster off.
1 hr. 15′	38°C.	29.2	Delay period ended, booster on.
2 hrs. 15′	13°C.	29.7	Final temperature, booster off.
2 hrs. 25′	—	29.0	Crystallizer emptied.

It is felt that this procedure results in a definite benefit to filtration and washing of the crystals at a slight sacrifice of equipment capacity. The Bird centrifugals are used for copperas separation, with a through-put of approximately 20 tons of TiO_2 per day per machine, and a TiO_2 loss of 0.8 to 0.9% of the through-put. The baskets, screens, and plough flights are all of Carpenter No. 3 stainless steel. The screens in use have .010 slots.

Hydrolysis

The initial dilution ratio is 75:25. The water used is condensate, with a limit of 0.2 g. p. l. acid content. Additional water is added in the amount of 6% after the third hour and 12% after the fifth hour, both based on original batch volume.

Agitation and heat are stopped for a twenty-minute period approximately fifty minutes after the solution drop. The batch at that time is at 105° to 107° C. A total time of approximately one hour and a half from the start of the solution drop is required to reach boiling. The total boiling period is five hours for a yield of approximately 96%.

The stop agitation period is varied if the initial dilution ratio is changed. A thirty minute period is used for 80:20 ratio, 20 minutes for 75:25, 15 minutes for 72.5:27.5, and 12 minutes for 70:30. It is estimated that proper control of stop agitation can account for as much as 25% difference in filtration rate.

The steam coils in the hydrolysis tanks, as previously reported, have been cut down to a single helix coil containing 50 ft. of pipe, approximately half of that previously used. The number of coils have also been reduced to five

per tank. With 120 lb. steam the smaller heating surface is sufficient to maintain standard temperature schedules for a 12-ton batch. Steam consumption is approximately one ton of steam per ton of TiO_2 packed.

It was stated that no instances of coil failure due to corrosion or erosion of the lead covering of the copper pipe had been encountered. At Edge Moor, however, several such failures have been known.

Washing, Bleach and Treatment

No actual plant work has been done on the substitution of precoat filters for Moore filters. The nitrated cloths have very largely been replaced with Vinyon cloths. The initial cost is less, and the life is said to be five or six times that of the nitrated cloth. This is an estimate, as none have actually failed so far with service up to 200 days. The clarity of filtrate is as good or better than that from the nitrated cloth.

Disposal of filtrates is as follows:

Crude Wash

First—cloudy—to Dorr settling tank.
High acid—clear—to Mantius recovery plant.
Low acid—clear—to mud washing system.
Practically acid free—to sewer.

Finish Wash

High acid filtrate—to Cottrell sprays
Other filtrate—to sewer

Bleach acid concentration is 100 g. p. l. for regular grade, and 120 g. p. l. for Y grade (antimony treated). 60° Bé acid is used. The bleach slurry contains 370 g. p. l. solids.

No test is made for presence of reduced TiO_2, but slurry is checked for absence of ferric iron. The amount of zinc used is .0008 tons per ton of pigment packed.

The potassium treatment is 3 g.p.l. at present for the purpose of obtaining lower oil absorption. For regular grades it is ordinarily 2.5 g.p.l. In the case of Latex WD grade, 3.1 g.p.l. is used, and 2.5 g.p.l. for the Y grade. The 1% antimony oxide for the Y grade is added along with the potassium treatment. It was stated that no quality difference was observed in addition of antimony at this point as compared to its addition at the hydrolysis step.

Calcination

Standard calcination conditions are as follows:

Grade	Tons/Day	Kiln Speed	Disch. Temp.	30 ft. Temp.	Stack Temp.
Regular	40	10′	1000	750–800	400
Regular	20	15′	1000	750–800	400
Y	35	10¾′	1015	925	475
O	20	11′	880	700–800	400

A 40-ton rate is said to be the maximum which can be adequately calcined in one kiln. The research department feels that a maximum of 35 tons should be set. It was stated that no quality difference was observed in the calcination of Y grade at a 25 ton rate or at a 35 ton rate. However, the pigment of this grade calcined at a 35 ton rate has all been treated with antimony immediately prior to calcination, whereas that calcined at a 25-ton rate was treated in the hydrolysis tanks. There is thus no direct comparison.

Oil consumption for calcination of regular grade TiO_2 is approximately 56 gallons per ton at a 35 ton rate, and 60 gallons per ton at a 40 ton rate. For Y grade approximately 76 gallons per ton is consumed at a 35 ton feed rate.

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Wet Milling and Finishing

The calciner discharge is repulped in caustic treated water with a pH of 9.5 to 9.7, and pumped direct to the hydroseparator. The overflow at 180 to 190 g.p.l. solids is flocculated and collected in a thickener. The underflow at approximately 450 g.p.l. solids is sent through the pebble mill and returned to the hydroseparator.

For flocculation of the dispersed pigment 0.08% Al_2O_3 is used, plus the minimum amount of magnesium sulphate which will effect complete flocculation. This is varied to maintain a pH of 7.0 to 7.2. No sulphuric acid has recently been used at this point, although at times it has been necessary. The loss in pebble weight in the mill is approximately one ton per 720 tons of pigment packed, or 2.8 lbs. per ton of pigment.

The operation of the Proctor & Schwartz—Louisville dryer "train" has not yet been fully standardized. To date operating conditions have varied widely, but at present the feed to the Proctor & Schwartz dryer contains about 48% moisture and the discharge 20 to 25%. Steam consumption for the Louisville dryer alone was 1.4 to 1.5 tons per ton of TiO_2. On the combination of the two dryers the steam consumption has increased to 2.25 to 2.5. The estimated capacity of the combined "train" is 45 tons per day on regular grade and 35 tons per day on the CR grade (1% Al_2O_3).

The piping in the wet milling system (up to the alumina treatment step) is all of galvanized steel. This is said to be entirely satisfactory from the standpoint of contamination.

It was said that the following quality differences exist in micronized pigment as compared to roller-milled:

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2 to 3 point improvement in dispersion.
Slight improvement in gloss.
Slightly poorer color (1 to 3 points).
Slightly lower oil absorption (1.0).

The micronizer rings and liners are stainless steel, the same materials being used for regular grade and for O grade. The rate of wear when grinding the latter pigment is very great.

About 8 tons per month of off-grade pigment is normally accumulated and sold as ceramic grade. At present the attempts to reduce micronizer dust loss by means of secondary cyclone collectors have resulted in accumulation of moist pigment at the rate of 8 to 10 tons per month which eventually must be returned to process.

The collection efficiency of the micronizers, using no additional or secondary collectors, has average 94 to 95%. With one secondary collector the efficiency has been increased to 98 to 99%. With the two secondary collectors in series only a short test has been made, but an efficiency of better than 99% is anticipated.

An 18" solid bowl centrifugal has been in use since August as a substitute for a hydroseparator in the processing of Y grade pigment. It is constructed of steel with a stellited flight edge. In handling approximately 720 tons of pigment about ⅛ of an inch of the stellited surface has been worn away.

It was stated that the No. 168 type pigment showed a tendency to greater agglomeration if stored for some time after packing, resulting in a high paint grit content. One hundred tons or more had been returned by customers during the past year for this reason. It was felt that the

cause was the separate preparation and washing of aluminum hydrate used for treatment, and that the fault should be corrected by precipitating alumina in the pigment slurry, followed by washing.

Samples taken at Baltimore were run for brightness-tone in an effort to determine the discoloration, if any, due to various processing operations. The results were:

Code	*Sample*	*Brightness-Tone*
Y-825-A	No. 1 kiln discharge	13-0
B	No. 1 cooler "	13-0
C	No. 1 dryer "	12-0
D	Mikro-pulverized dryer discharge (FF)	12-2
E	Micronizer feed (Y-CR)	12-2
F	Micronizer discharge (Y-CR)	12-2

The results on these samples indicate that at the time the drop in color due to Mikro-pulverizing and micronizing was negligible.

CR Grade

This process system handles about 16 tons per day. The wet-milled, thickened pulp is treated in 23-ton batches with aluminum sulfate solution of 13.2° Bé strength, equivalent to 1.0% Al_2O_3. The batch is then heated to 80° C. with agitation and held at that temperature for 16 hours.

26° Bé ammonium hydroxide is then added in sufficient quantities to adjust the pH to 8.0 +. After an additional three to four hours retention to insure uniform pH the slurry is dewatered in a plate and frame press equipped with cotton cloths. The press is filled (1500

pounds) in 2½ to 3 hours, and the press cake washed for 1½ hours. The press cake is repulped at 350 to 400 g.p.l. solids, and fed over a dewatering filter to the Proctor & Schwartz dryer. This is followed by a Louisville dryer and micronizer, for the LO grade or Mikro-pulverizer for the MO.

Y Grade

The antimony oxide (equivalent to 1.0% of the pigment) is now added in the potassium sulfate treatment tanks prior to calcination. The flow is 24 tons per day. The kiln discharge is bagged and transported to the pebble mill. The Bird centrifugal is used as a classifier, the rejects returned to the mill and the ground effluent to the CR grade aluminum treating system previously described. Pressing and drying follows the same process. All of this grade is micronized.

Personnel

The base hiring rate for labor is 56 cents per hour. Common labor pay remains in the range of 56 to 58 cents.

In the case of a workman substituting temporarily on a more highly paid job, the higher rate is not applied except for periods of eight hours or more. However, the foreman has authority to O.K. the time card for the full eight hours at the higher rate if he feels this is justified. For example, a man performing a total of 12 or 14 hours' work during a week in short periods on the more highly paid job may be compensated by the foreman specifying the higher rate for two complete eight-hour shifts.

Time and a half is paid to all hourly employees for any time over eight hours in any one day or forty hours in

any one week. Time and a half is also paid for five designated holidays to all hourly employees working on these days. This applies to shift operators as well as straight day men. No overtime rate is paid for Sunday work, unless such work brings the weekly total over forty hours.

If a man reports for work on schedule and is assigned no work, he must receive minimum pay for four hours. In practice, of course, this is very rare, as his foreman would endeavor to find some sort of useful work for the four hours' pay. If a workman is called in off schedule for a special job, he receives pay for the time actually worked, plus two hours' pay for "travel time." No overtime is paid for such work unless, as would usually be the case, it falls under the eight-hour day or forty-hour week provision.

No work clothing is supplied free of charge to any workers. Instead, either cotton or woolen clothes and gloves are supplied at half price, and replaced at this price on the basis of a "normal life" schedule. For example, cotton jumpers and trousers are sold at 78 cents on a 23-day replacement basis, and the corresponding woolen garments at $3.00 on a 90-day replacement basis. If supplied more frequently than the schedule, the worker must pay full price. The cost to the company for clothing is about $65 to $75 per month.

Goggles, respirators, rain coats, boots, etc. which might be classified as safety equipment, are supplied free of charge. All workers (and visitors) are required to wear goggles at all times when in the plant, except within a few specified offices.

Vacations of two weeks with pay are given to all employees after one year of continuous service.

Distribution of employment and rates are shown in an attached tabulation.

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Mantius Concentration Unit

Present operating conditions for production of approximately 90 tons per day of H_2SO_4 at a concentration of 75° are as follows:

Weak acid feed tank—heated to 170-180°F.
Lead coils using flash steam from condensate at 5 lbs. pressure.

Analyses:

Fe —42 to 50 g.p.l.
H_2SO_4 —21.5% average
Sp.Gr. —1.29 at 80° F.
TiO_2 —6 g.p.l.

No. 1 concentrator—continuous operation

Steam pressure — 62 to 65 lbs.
Vacuum — 25 to 26 inches

No. 2 concentrator—continuous operation

Steam pressure — 80 to 90 lbs.
Vacuum — 27 to 27½ inches.

No. 3 concentrator—continuous operation

Steam pressure — 90 to 100 lbs.
Vacuum — 28 to 28½ inches.

Slurry Cooling

Air agitation, Filtros blocks.
Cooled from 180 F. to 85°F.
Spare cooler (duplicate) installed but use not necessary.
Addition at this point of copper sulfate to prevent corrosion of centrifugal; .013 lbs. Cu per 100 lbs. free acid.

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No. 1 Bird Centrifugal

Feed analysis:

Sp. Cr. — 1.775 at 33° C.
117.8 g.p.l. Fe (ferrous).
15.3 g.p.l. TiO_2
1115 g.p.l. total acid.

Filtrate analysis;

63 to 65% free H_2SO_4.
1 to 2 g.p.l. TiO_2.
5 to 10 g.p.l. Fe.
Sp. Gr. 1.59 to 25° C.

Sludge analysis:

55% solids
25% free acid.

No. 2 Bird Centrifugal

Feed consists of sludge from No. 1 Bird repulped with weak acid. The filtrate is returned to the weak acid storage tank, and the sludge sent to waste. A small amount of wash is now being done by the addition of water near the discharge end. With no wash the sludge contains about 13% acid; with the wash, about 10%.

65% Acid Storage Tank

Acid heated to 200-210° F.
Lead coils, 5 lb. flash steam.

No. 4 Concentrator

Steam pressure—80 to 100 lbs.
Vacuum—28.6 inches.
Temperature—235 to 240° F.

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Product Cooler

This consists of a tank equipped with lead coils through which cooling water is circulated. Agitation is furnished by air sparge. The acid is cooled to 125° F., then permitted to settle, and the clear acid drawn off to the final storage tank. This storage tank is equipped with a Dorr rake mechanism and underflow pump. The sludge from this tank and from the cooler is returned to the primary slurry cooler.

The Industrial Engineering Department is making a survey of the "impurities balance" in this system which is not yet complete. The following specific points may be of interest to the operating department:

1) It was stated that all Al_2O_3 is removed by concentration to 93% H_2SO_4.

2) .075 tons of solids per ton of H_2SO_4 settles out in the final storage tank and is returned to the primary slurry cooler.

3) The rubber diaphragm in the sludge underflow pump has been in service seven months with no replacement. However, Neoprene is recommended.

4) To avoid the effect of thermal shock on the Duriron tubes in No. 4 concentrator, it is attempted to preheat the feed nearly to operating temperature. A difference of 30-40° F. is permissible.

5) In a recent capacity test, with operating conditions as previously listed, a rate of 110 tons H_2SO_4 per 24 hours was maintained for a two weeks' period.

6) A total of 7 Duriron tubes have been replaced because of failure in operating service, three of them

in No. 3 concentrator and four in No. 2 concentrator. They were all in the bottom row, and cracked near the flange, due to "surging". There has been no indication of corrosion.

7) The condensate is removed from these tubes in series through traps to a flash chamber. From this chamber 5 lb. steam is drawn off for heating. The method is considered satisfactory.

8) The addition of copper sulfate was started at the same time that the efficiency of the slurry cooler was improved. For this reason they are not too sure of the benefits, but are still continuing the copper addition.

9) A newly designed cover has been installed on the Bird centrifugals (now standard with the Bird Company), with larger sludge openings and a larger discharge chute. This is credited with effecting a saving in power, prevention of leakage, and an increase in cake solids of 1 to 2%.

10) Prior to last September, there had been some trouble with the teeth breaking in the drive gear units on the Bird centrifugals. These were designed for 15 h.p. and were occasionally overloaded. They have been replaced with units designed to carry 25 h.p., and the drive changed from chain to Texrope.

11) The centrifugals are constructed of KA_2SMO, with stellited plough edges. The rate of corrosion of KA_2SMO is said to be greatly accelerated above 100° F.

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EDGE MOOR

Digestion

At present one half of the digestion batches contain re-circulated residue. The batch ingredients are as listed:

Regular Batches	Material	Mud Batches
41,800	Pounds ore	40,200
24,300	60° Bé acid	13,920
None	Oleum, slurried with mud	21,080
40,000	Oleum	26,880
Balance needed (280-300 lbs. H_2SO_4)	Waste acid	None
None	H_2SO_4 with mud	800
None	Dry weight residue	1,600
None	Antimony oxide (X grade oxide, 96.0%)	60 (Estimated 50 lbs. re-circulated)

The acid concentration at the time of reaction is calculated to be 93.0%. The theoretical ratio of acid to ore is stated to be 1.50, but calculated from the above batch proportions is 1.46 to 1.47. Current conversion on the regular batches averages 90.5%. The recovery, based only on new ore input, for the mud batches ranges from 94 to 96%, averaging about 94.8%.

The re-circulation of residue amounts to 55 to 60%, based on one half the total solution flow. In operation the primary settling tank underflow at about 20% solids is

pumped into the digestion tank and mixed with part of the oleum. The temperature rises to 150-160° C. The ore is added to the 60° Bé acid and the balance of the oleum in a separate tank, slurried, cooled to 35° C., and dropped into the batch as a set-off. Two to three minutes is required for this dropping operation, which is followed by the reaction in six or seven minutes. The reaction is vigorous, and cleaner tanks are said to result than from the regular batches.

The re-circulation of waste acid to this department is about 20%. In winter about 7½% of the waste acid is added prior to reaction; in summer it is all used in the dissolving stage.

The use of air agitation for the digestion batches is as follows:

Mixing—1000 to 1200 c.f.m.	— 1 hour
Reaction—1000 to 1200 c.f.m.	— 3 to 5 minutes.
Quench acid addition—360 c.f.m.	— 4 to 5 hours.
Dissolving—180 c.f.m.	—10 to 11 hours.
Total consumption (approx.)	—288,000 cu. ft.

After the maximum reaction the air is reduced to about 100 c.f.m. for ten minutes, then shut off entirely for a three hour curing period. The total batch cycle is about twenty-four hours.

Some experimental work has been done on fine grinding of ilmenite ore. Indications are that ore particles in the range from 44 microns (325 mesh) down to 23 microns digest readily and with good recovery. It was stated that below 23 microns the particles wet poorly.

Clarification

The flow of solution is split between two 40 ft. Dorr tanks for primary clarification. The standard copper sulfate-iron sulphide coagulants are used on one system, antimony oxide and sodium sulfide on the other system.

Antimony has been used to this extent since early December, and the results have been favorable. So far each digestion batch is analyzed for antimony content and the sodium sulfide addition based on this analysis. If more antimony oxide is felt to be needed it is dissolved in heated 25% waste acid and added to the batch. Flaked sodium sulfide is used, dissolved in water at a concentration of one half pound Na_2S to the gallon. Ten per cent excess above the calculated amount is added. Glue is added at the same point, in the amount of approximately one pound per 15,000 lbs. of solution.

Crystallization

The interrupted cooling practiced at Baltimore has been used at Edge Moor, but is not now in use because of lack of capacity. A Bird continuous screen type centrifugal has been placed in parallel service with the Swenson filters, and has been in operation for about six weeks. It is equipped with .010 slots in the first two compartments, and .008 in the third or drying compartment. The throughput is about 22 tons per day, with 0.6% TiO_2 loss.

Hydrolysis

A 70:30 dilution ratio is used, with twelve minute stop agitation period. After three hours boiling a 5% water addition is made, and after five hours a 10% addition

Both of these are based on the then current volume. The steam consumption for hydrolysis, including the preheater tank, is 1.05 to 1.10 tons per ton of TiO_2 packed.

The hydrolysis heating coils have been gradually changed from the double to the single helix. There are now six single coils and two double in each tank.

Washing, Bleach and Treatment

About 80% of the filter cloths have so far been changed from nitrated cotton to Vinyon, the No. 1 weave. There has been no complete failure of these cloths after one year's service, but there has been some tendency to blind. The best previous service on nitrated cloth was 200 days. The clarity of the filtrates is as good as from the former cloths.

From the crude wash the cloudy filtrate is sent to two Dorr tanks, and the clear filtrate returned for mud washing and dissolving use in the digestion department. Other clear filtrates are sent direct to the sewer.

One hundred g.p.l. acid is used in the bleach step, with 350 to 360 g.p.l. solids. The batch is held at 85° C. for one hour. The average consumption of zinc is .05 lbs. per 100 lbs. of TiO_2, added two pounds at a time. The operators check presence of ferric iron after each zinc addition, and no excess zinc is used after full reduction of the iron. The potassium sulphate treatment is 3.1 g.p.l. in a slurry containing 370 g.p.l. solids.

Calcination

At a 40-ton calciner feed rate the rotation speed is ten minutes per revolution. Oil consumption is approximately 60 gallons per ton. The temperature ranges are as follows:

Exhibit 496

Combustion chamber	— 1100°C.
One foot	— 965°C.
30 ft.	— 855°C.
50 ft.	— 675°C.
Stack	— 420°C.

Temperature of the pigment delivered to the cooling barrel is said to be 460-470°C.

Ti-Cal Calcination

The calcination of TiO_2 at Edgemoor, where it is used primarily for the manufacture of the composite pigment, is carried out with a longer calcination zone than at Baltimore. This practice has been followed since the start of operations. It was found that with the unlined outdoor cooling barrels the effect of rapid cooling, when using short, abrupt calcination, was to develop a very blue tone. It was noticed also that the tinting strength of the finished composite pigment was lower when abruptly calcined TiO_2 was used. However, all tests indicated no difference in properties in the finished TiO_2 itself whether calcined abruptly or with a long zone.

Since the tinting strength of TiO_2 has already been developed by calcination prior to the wet blending of the composite, the consistency of the composite pigment becomes the chief aim of the final calcination. This is, of course, easier to control than is the case with our co-precipitated pigment, where calcination must be regulated to develop tinting strength of the TiO_2 as well as other properties.

The acid used for formation of calcium sulphate is 60° Bé strength. It was stated that a higher strength acid produces coarser particle anhydrite and thinner consistency

pigment. If lower strength acid is used, the anhydrite contains too much gypsum. The anhydrite currently produced contains 4-5% gypsum, an amount which is thought to be not objectionable.

Wet Milling and Finishing

Approximately 41 tons per day of TiO_2 is processed as far as the calciner feed. At that point one ton is taken out for use in manufacturing Ti-Tints. Of the 40 tons calcined, 7 tons are taken from the cooling barrel discharge to be dry-milled as the LW grade. Thirty-three tons are wet-milled, of which 20 tons are used for Ti-Cal and the other 13 tons for Ti-Bar and Ti-Tone.

Pigment is fed to the hydroseparator, with a solids concentration of 250-275 g.p.l., the overflow at 120-130 g.p.l., and the underflow 350-400 g.p.l. solids. The slurried cooling barrel discharge is fed through the pebble mill, with the addition of the hydroseparator underflow, and discharged to the 30 ft. hydroseparator. The ratio of calciner discharge to hydroseparator underflow in the pebble mill feed is approximately 3.6 to 1. The ball loss is two tons in 4 months, or approximately one pound per ton of wet-milled pigment. The total ball charge is 12 to 14 tons.

The wet milling piping is principally galvanized steel. There is a small amount of lead piping, and lead valves are used. With the addition of aluminum treatment to this department rubber-lined piping will be used for the heated slurries containing alumina and ammonia. The aluminum treatment tanks will be equipped with a three blade sweep agitator of steel, rubber-covered. This tank will be brick-lined, and so far no consideration has been given to binders other than acid-proof cement, although it was conceded

that some better material should be found to resist the alkaline solutions.

The micronizers are used only on the composite pigment. The rate has been 3000 to 4000 lbs. per hour, with a steam consumption of about 1.5 tons of steam per ton of pigment. Without a secondary collector, the dust loss has been about 5%. With two collectors in series added there has been practically no loss, but the pigment from the secondary collector has been moist and unuseable for that reason.

Expansion Equipment

The principal pieces of new equipment which are now being installed or are planned for installation at this plant are listed. It is estimated that the plant capacity will be increased to about 70-80 tons of TiO_2, of which 20-25 tons will be used for Ti-Cal, and 18-20 tons for the other composite pigments. The balance, or 30-40 tons, would be produced as finished TiO_2 in the various grades.

Department	*Addition*	*Total*
Digestion	4 tanks	8 tanks
Clarification	2 40 ft. Dorr tanks	3 tanks
	1 50 ft. " "	2 "
	1 filter press	2 presses
Crystallization ...	1 crystallizer	2 crystallizers
	1 Bird centrifuge	2 Bird centrifuges
	1 solution press	2 presses
	1 concentrator	2 concentrators
Hydrolysis	2 hydrolysis tanks	3 hydrol. tanks
	1 preheater tank	2 preheater tanks
Washing	7 Moore frames	Indefinite
	10 tanks (perhaps precoat filters)	
Bleaching	2 tanks	4 tanks
Treatment	2 tanks	4 "

Exhibit 496

Department	*Addition*	*Total*
Calcining	1 kiln	3 kilns
	1 Cottrell unit	2 Cottrell units
	1 dewatering filter	3 dewatering filters
Wet Milling	1 pebble mill	2 pebble mills
	1 hydroseparator, or 1 Bird centrifugal	2 units
	1 thickener	2 thickeners
	4 Al. treatment tanks	4 treatment tanks
	1 P&S dryer	1 P&S dryer
	1 micronizer	1–(on TiO_2)
	1 Mikro-pulverizer	1–(" ")
Miscellaneous	Increase necessary in compressed air and vacuum supply.	
Building Additions		
	Digestion building	
	Filter "	
	Kiln firing house	
	New building for dryer	
	Warehouse increase—50 to 60%.	
	Chemical mix house for treatment.	

COMPARATIVE RECOVERIES

Dept.	Sayreville		Baltimore		Edge Moor	
	Dec.	1939	Dec.	1939	Dec.	1939
Digestion	94.0	94.4	92.0	92.0	92.1	92.3
Clarification	97.9	97.7				
Crystallization	99.3	99.2	98.0	98.4	96.7	97.5
Precipitation	96.9	96.7	95.6	96.0	95.6	96.0
Washing	98.1	98.1	97.6	98.6	100.2	99.8
Calcining-Milling	97.1	97.2	98.7	97.7	100.6	100.5
Overall*	83.0	83.3	80.6	81.6	83.3	83.2

*Notes: 1)—Add 3.0% (wind loss) to Baltimore and Edge Moor figures.

2) Sayreville recovery based on *TiO_2 packed*, others on pigment packed. Sayreville 1% to 2% lower for that reason.

Materials and Supplies Consumed
(Per Ton TiO_2 Packed)

Item		Sayreville		Baltimore		Edge Moor	
		Dec.	1939	Dec.	1939	Dec.	1939
Ilmenite	(Tons)	1.97	1.97	2.07	2.04	2.00	1.98
H_2SO_4 (Total)	"	3.50	3.31	3.39	3.27	3.15	3.13
H_2SO_4 (Digestion)	"	3.06	2.97	3.06	2.96	2.89	2.90
Scrap steel	"	.20	.22	.24	.26	.25	.27
$CuSO_4$	"	None	None	.0182	.0122	.0039	.0091
FeS	"	None	None	.0063	.0067	.0051	.0077
Sb_2O_3	"	.0014	.0014	None	None	.0011	.0004
Na_2S	"	.0060	.0080	None	None	.0017	.0007
Glue	"	.0022	.0012	.0012	.0007	.0018	.0009
Filter aid (Solution)	"	.0159	.0205	.0088	.0126	.0100	.0079
Filter aid (pigment)	"	.0052	.0053	None	None	None	None
Sulph. castor oil	"	.0001	.0001	.0001	.0001	.0007	.0007
K_2SO_4	"	.0115	.0105	.0102	.0076	.0103	.0092
Zinc	"	.0025	.0016	.0005	.0008	.0006	.0006
$MgSO_4$	"	.0073	.0082	.0047	.0041	.0022	.0029
NaOH	"	.0005	.0004	.0025	.0026	.0007	.0007
Ammonia	"	.0096	.0171	.0024	.0039	.0001	.0001
Fuel Oil	Gals.	100	81	72.4	70.8	66.4	63.8
Man Hours		10.72	10.00	20.9*	21.0	12.5	12.5
Fresh water	Cu. ft.	1886	2071	1259	1163	956	1034
Salt Water	"	11410	12061	Used for cooling purposes but not measured.			
Steam	(Tons)	10.1	10.3	8.25	7.35	6.85	6.02
Electricity	(KWH)	526.6	547.1	366.2	397.4	339.0	351.2

*Manhours figured on different basis.

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Exhibit 496

Exhibit 497

Letterhead of

NATIONAL LEAD COMPANY

New York, April 18th, 1940

Dr. G. Jebsen
Societé Industrielle du Titane
26, Rue de la Pépiniere
Paris — VIIIe — France

Dear Dr. Jebsen:—

We regret exceedingly to again trouble you with matters of business at this time, but the situation appears to be of such importance, that Mr. Garesché desires that I bring it to your attention.

Within the past several months there have been certain developments affecting the National Lead Co.-Du Pont agreement which have created a situation which will be of interest to you.

A few months ago Mr. Garesché received a letter from Mr. Rupprecht in which Mr. Rupprecht stated that he had just become aware that we (National Lead Co.-Du Pont) had been exchanging information and patent rights respecting extender pigments. He contended that the Licensed Field of our agreement did not include extender pigments which contained less than 2 percent of titanium; that it was not the intention of the parties when drafting the agreement to include such materials; and that the exchange which had continued from shortly after concluding the agreement up to the present was entirely inadvertent. Mr. Rupprecht took the position that in the future the practice of exchanging information and patent rights re-

specting extender pigments should be discontinued, but he offered to obtain a formal consent and ratification by Du Pont as to those patents and patent applications which had already been exchanged.

As a result of the consideration of the nature of the reply to be made to Mr. Rupprecht's letter, it was apparent that, in the position taken by Mr. Rupprecht, there were certain implications the effect of which upon the coöperation might be far reaching and not to the advantage of either party. It had always been our view that rights were to be exchanged with respect to extender pigments but that such rights were to be strictly limited to the preparation and use of extender pigments in connection with the manufacture of composite titanium pigments and would not permit the preparation of an extender pigment for sale as such, unassociated with titanium dioxide. Such view, we maintained, was consistent with a liberal interpretation of the Licensed Field as defined in the agreement, and we contended that the practice which had been followed up to the present lent confirmation to our interpretation.

Furthermore, it appeared to us that to restrict the Licensed Field at this time by exclusion of information and rights as to extender pigment might conceivably invite in the future a restriction as to methods and apparatus not in themselves having to do with the manufacture of titanium pigments but which could be used in such manufacture in that they are useful or necessary in the preparation or treatment of materials to be used therein. It was our view that if extender pigments were to be excluded from the Licensed Field, then it would naturally follow that these other methods and apparatus might also be excluded, since they also were not actually a part of the process for the preparation of titanium pigments.

Therefore, in his reply to Mr. Rupprecht's initial letter, Mr. Garesché took the position that under a liberal interpretation of the Licensed Field extender pigments were included, that the practice which had developed between the companies indicated the intention that they should be included and expressed the hope that we would continue to exchange extender pigment patent rights and information. In his opinion it was in the interest of both parties to continue in the future as full a coöperation as in the past.

Subsequent to the exchange of letters, Mr. Garesché and Mr. Rupprecht had several conversations of an exploratory nature. As to these conversations it might be said that Mr. Rupprecht maintained substantially the attitude expressed in his letter as outlined above, and Mr. Garesché put forward our views as also outlined above. Their last conversation took place Friday, April 12th, in the course of which Mr. Rupprecht advanced a new position, along the following lines:

Du Pont was now ready to concede that rights with respect to extender pigments might be exchanged but that these rights should be restricted to use in the manufacture of composite titanium pigments, but that the agreement should be redrawn to include them. Thus, presumably rights as to the other methods and apparatus not actually part of the process for preparing titanium pigments would also continue to be exchanged. However, Mr. Rupprecht now stated that it is the attitude of Du Pont that they must withdraw from an exchange of experience. This did not come as a complete surprise; there have been indications that the Du Pont Legal Department looked with disfavor upon exchange of information and technical experience of the nature termed in this country "skill of the

art" or "know-how". Mr. Rupprecht stated that in view of the current legal interpretations of our various anti-monopoly statutes, the exchange of technical coöperation involved legal risks which Du Pont did not wish to maintain. He, therefore, proposed that the agreement be revised, eliminating the exchange of experience and suggested that each party prepare a draft of a revised license agreement so that these might be compared as an indication of the view points of the parties.

Mr. Rupprecht also stated that Du Pont would prefer not even to exchange patent applications but in view of the coöperation established with Titan Co., Inc. he suggested that Du Pont applications be forwarded to us nine months after the filing in the United States. Mr. Garesché expressed the opinion that there would not be sufficient time to permit us to consult our various foreign associates and to file corresponding foreign applications within the Convention Year. I confirmed this to Mr. Garesché and this point will have to be further considered with Mr. Rupprecht. We would particularly like to have your opinion regarding the nine months interim.

This is the present status of the situation.

It is not possible at this time to foresee in what directions, other than elimination of the exchange of experience, Du Pont may wish to alter the existing agreement, but from past indications, it may be expected that Du Pont will advance additional alterations. On our part, we will endeavor to adhere as closely as possible to the present agreement, eliminating exchange of experience and possibly re-defining the Licensed Field, specifically to include extender pigments when used to the manufacture of titanium pigments. As the situation proceeds, we will keep you fully advised.

We appreciate that the present situation can have important consequences upon the international coöperation; we are endeavoring to keep this in mind, and any comments and suggestions you may care to make will be most welcome.

Mrs. Kaegebehn and I have been very deeply concerned about the welfare of our Norwegian friends and their families. Do you have any news from "oncle" Ravnestad and Mr. Andersen?

Again sending you our very kindest regards,

Very truly yours,

C. F. KAEGEBEHN

CFK:JL

Exhibit 498

April 19, 1940

Mr. F. W. Rockwell, President
National Lead Company,
Building

Dear Mr. Rockwell:

Mr. Rupprecht of Krebs Pigment Corporation has approached us with the proposal that we agree with them to modify a particular phase of our cross licensing agreement with them, dated January 1st, 1933.

He states that it is the feeling of their Executive Committee and Legal Department that in view of the recent trend of legislation at Washington, that the feature of exchanging "know how", or the "art of manufacture" between our companies, tho in no way illegal, would be subject to criticism, and that they feel we would both be better off if we agreed to eliminate it from the contract.

Of course, any modification of the above-mentioned agreement can only be done with the approval and authorization of the Executive Committee of both companies.

Our position in our conversations has been that we are reluctant to give up the benefits which accrue to both parties from this arrangement, but if their Legal Department feels that it must be done, we would agree to explore the possibility of drawing up a mutually satisfactory new agreement eliminating "know how" from the contract. We are attaching hereto Article 3 of the agreement which covers this particular phase.

In view of the fact that it will probably be at least six months before a new agreement can be drawn and approved, we have suggested that if it was their desire, we

would consider the possibility of tentatively eliminating the exchange of "know how" immediately, pending, of course, the final approval of the new agreement confirming it, which will be approved by the respective Executive Committees.

Mr. Rupprecht has considered this and advised us that even a temporary arrangement, he feels, should have their Executive Committee's approval and it is, therefore, suggested that we each should present the matter to our Executive Committee on the basis of making the tentative arrangement for elimination of "know how", effective May 1st, 1940.

We, therefore, respectfully ask for the Executive Committee's approval of such procedure.

Yours very truly,

Manager

Exhibit 499

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

April 24, 1940.

Titanium Pigment Corporation
111 Broadway
New York City, New York
Attn: Mr. C. F. Garesche

My dear Mr. Garesche:—

This is to confirm our telephone conversation of today:

1. As of May 1, 1940 the exchange of know-how and research information between your Company and this Company will cease and terminate.

2. Both companies will proceed promptly to formulate a new agreement in lieu of the agreement of January 1, 1933, as supplemented by the agreement of January 1, 1936, which new agreement shall be limited to:

(a) The present "Licensed Field" shall be redrafted to include extenders, as applied to manufactured titanium pigments.

(b) The exchange of non-exclusive licenses on applications for U. S. Letters Patent, and patents issued thereunder, shall be effected some months (to be determined later) after date of filing of U. S. application.

(c) The offer of non-exclusive licenses to your foreign associates shall be made some months (to

be determined later) after date of filing of U. S. application.

Will you kindly signify your assent by executing the attached carbon copy, and returning it to me for our files.

Very truly yours

C. H. RUPPRECHT
GENERAL MANAGER.

Accepted:

Titanium Pigment Corporation

By .....

Exhibit 500

NOTES RE. MR. RUPPRECHT'S LETTER OF APRIL 24th, 1940

1.) The letter is addressed to Titanium Pigment Corporation; should not this be changed to "National Lead Company—Titanium Division":

2.) The termination of exchange of "know-how" and research information is clear and needs no comment.

3.) Specifying in Paragraph 2 that the proposed new agreement "shall be limited to" followed by enumeration of items (a), (b), and (c) appears to imply that the sole future basis for exchange shall be limited to what is stated under (a), (b) and (c). It is not our understanding that, in effect, what is stated under (a), (b) and (c) are changes which will be embodied in the new agreement.

4.) With respect to redefinition of "Licensed Field" to include extender pigments, should not the redefinition of the "Licensed Field" also specifically exclude treatment of materials derived from titanium pigment manufacture, as well as such other methods, processes, etc. which produce materials that are not ultimately associated with titanium dioxide. The redefinition of the "Licensed Field" will alter Article I of the present agreement.

5.) Article II of the present agreement contains four provisions:

a) The exchange of non-exclusive licenses to use all processes, methods and apparatus within the "Licensed Field", *whether or not patented or subject to patent*, but the right of sale is limited

to the United States, its colonies and possessions, present and future, Mexico, Central America, West Indies and South America.

(In recasting this provision of Article II, exchange of rights to unpatented developments will probably be excluded, but we should prefer to retain the territorial limitation of the right to sell.)

b) The right to sell intermediate products within the licensed territory of sale is granted.

(There is no reason why this should be excluded in the new agreement.)

c) The right is given to purchasers from either party of any intermediate product to use the product so purchased.

(There is no reason why this should be excluded.)

d) The last provision stipulates that each party shall be free to grant licenses to third parties.

(There is no reason why this provision should be excluded.)

5.) Article III provides for the exchange of "know-how.

(This will, of course, be excluded.)

6.) Article IV provides for the payment of royalties.

(Inasmuch as this provision of the formal agreement has already been automatically

terminated, this provision can be excluded from the new agreement.)

7.) Article V contains two provisions:

a) That each party when it gets rights within the "Licensed Field" will undertake to assist the other also to get rights.

(This provision, on its face, appears to be innocuous. It can be expected, however, that Mr. Rupprecht may wish it to be excluded because it suggests a working arrangement between the parties which goes beyond the mere exchange of non-exclusive licenses.)

b) In this provision, Krebs undertakes to offer to our foreign associates rights in their foreign patents before offering the same to anyone else.

(It is to be expected that Mr. Rupprecht will wish this to be excluded. In view of the present practice of exchanging rights by means of separate license agreements which has developed between Titan Co., Inc. and Du Pont, the retention of this provision is probably not important. Nevertheless, we should prefer that it be retained because it indicates at least an intention on the part of Du Pont to offer licenses to our associates.)

8.) Article VI is the cancellation clause.

(Presumably this will be retained.)

9.) Article VII contains two provisions:

a) Each party releases the other during the term of the agreement from any and all claims for infringing their respective patents and relinquishes their right to sue for past infringement.

(Since the grant of a license is, in effect, a waiver of the right which a patentee possesses to sue for infringement, this provision is probably not important. It apparently states no more than what is legally implied by the grant of the license. It could probably be excluded without detriment, but there is no reason for excluding it, and it could be repeated in the new agreement, if only because it appeared in the old agreement.)

b) The release given under (a) to the respective parties is extended to their customers, but the release is only for that period preceding the agreement.

(We are at present not licensed under any use patents which departments of Du Pont, other than Krebs, may develop. Thus, when we sell titanium dioxide, which may be produced pursuant to the license granted us, our customers may be exposed to suit for infringement of a Du Pont patent covering the use of titanium dioxide, which patent was not developed by the Krebs Division. This situation operates to give Krebs a sales advantage.

As to the provision which stands in the present agreement, this probably can be excluded from the new agreement since, in any event, it applied only to the acts of customers prior to January 1st, 1933. However, if we could negotiate a substitute provision which would give us the right to sell titanium dioxide for uses which Du Pont may have protected by patents developed by departments other than Krebs, the present use patent situation would be corrected.

10.) Article VIII provides that the agreement is non-assignable.

(This may be retained in the new agreement.)

Possibly the second paragraph of the letter might be re-drafted to read "which new agreement shall include: ********* followed by an enumeration of the essential features of the new agreement, and concluding with some such statement as "together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement."

C. F. Kaegebehn
Patent Department
April 25th, 1940

Exhibit 501

Letterhead of

NATIONAL LEAD COMPANY

April 26, 1940

Mr. C. H. Rupprecht, General Manager
Krebs Pigments Department
E. I. duPont de Nemour & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

With reference to your letter of the 24th confirming our telephone conversation of that date, we have several suggestions to make, which are as follows:

The letter should be addressed to National Lead Company—Titanium Division, as it and not the Titanium Pigment Corporation, is the principal in the agreement.

As an addition to your "1 . . . terminate", we suggest the following . . . *subject to final ratification by both companies of the new agreement mentioned below under "2", when and if, it becomes effective.*

Under your "2", we suggest that there be substituted for your wording "which new agreement shall be limited to", *which new agreement shall modify the old in the following respects:* and after your paragraphs (a), (b) and (c), the following wording, *together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.*

With these changes, which I hope meet with your approval, I feel the form of the letter will cover the situation very nicely.

Exhibit 501

As expressed to you in our recent conference, we are reluctant to relinquish the feature of exchange of "know how" from the agreement, as we feel that it is a mutually beneficial arrangement between us, which serves to more quickly promote the development of the art and is beneficial to the consuming public. However, in view of your feeling with reference to this feature, we are willing to accede to your wishes and discontinue these exchanges of information, making it effective May 1, 1940, as indicated in your letter.

Yours very truly,

C. F. CARESCHÉ
Manager

Exhibit 502

Blind copy to:

Mr. T. R. Hanley, Legal Dept.

April 29, 1940.

National Lead Company—Titanium Division
Titanium Pigment Corporation
111 Broadway
New York City, New York

Atten: Mr. C. F. Garesché

My dear Mr. Garesche:—

This is to confirm our telephone conversations of April 24th and 29th:

1. As of May 1st, 1940 the exchange of know-how and research information between your Company and this Company will cease and terminate.

2. Both companies will proceed promptly to formulate a new agreement in lieu of the agreement of January 1, 1933, as supplemented by the agreement of January 1, 1936, which new agreement shall modify the old in the following respects:

(a) The present "Licensed Field" shall be redrafted to include extenders, as applied to manufactured titanium pigments, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

(b) The exchange of non-exclusive licenses on applications for U.S.Letters Patent, and patents is-

sued thereunder, shall be effected some months (to be determined later) after date of filing of U.S. application, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

(c) The offer of non-exclusive licenses to your foreign associates shall be made some months (to be determined later) after date of filing of U.S. application, together with such other provisions as may be mutually agreed upon during the formulation of the proposed new agreement.

3. Failure of final ratification by both Companies of the new agreement provided for in (2) hereof shall serve to cancel and terminate all provisions of this letter.

Will you kindly signify your assent by executing the attached carbon copy, and returning it to me for our files.

Very truly yours,

C. H. RUPPRECHT
General Manager.

Accepted:

National Lead Company—Titanium Division
Titanium Pigment Corporation

By (s) C. F. GARESCHÉ

Exhibit 503

April 30, 1940

Mr. C. H. Rupprecht, General Manager
Krebs Pigment Department
E. I. duPont de Nemours & Company,
Wilmington, Delaware

Dear Mr. Rupprecht:

I am returning herewith signed original of your letter of the 29th modifying the agreement of January 1st, 1933 between Titanium Pigment Company, Inc., and Krebs Pigment & Color Corporation.

Yours very truly,

Manager

Exhibit 504

Paris, May 3rd 1940

Charles F. Kaegebehn Esq.
Patent Department
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Kaegebehn,

Many thanks for your letter of April 18th, regarding the National Lead Company—Du Pont agreement.

I have read this with much interest and regret much to see that Du Pont seem inclined to withdraw more or less from the cooperation.

I took the opportunity to talk the matter over with Mr. Stopford, who was of the same opinion, and we both agreed that the term suggested by Mr. Rupprecht for forwarding patent applications to us, leaving only three months of the International Priority rights, was far too short. We agreed that it ought at least to be six months.

I shall look forward to hear further of the developments of this matter.

I am inclined to believe that both Du Pont and we will regret if the cooperation should cease.

I much appreciate the very kind sympathy Mrs. Kaegebehn and you have shown regarding the present situation.

Andersen is, as mentioned in Sweden, I assume with his wife, and both well. From his cables I gather that Ravnestad and most of our people are in Fredrikstad and well.

I have no direct news from my family and am informed that my wife and youngest boy and my mother in law are

Exhibit 504

in an hotel in the mountains—and so far safe. My eldest boy joined the Norwegian army as volunteer and has been taken prisoner, and my second boy is in Oslo.

I was rather optimistic at the beginning, that it should be possible to throw the Germans out of Norway before the autumn, trust that the English navy should be able to prevent effective reinforcements. In the last 3 or 4 days I have, however, begun to doubt, fearing that this would not be the case. Now it seems that it will be a slow process.

With kindest regards,

Yours very truly,

Sign. G. JEBSEN

Copy to Mrs. Garesché.

Exhibit 505

May 14, 1940

Dr. G. Jebsen.
For Mr. S. Andersen
Titan Company, Inc.
c/o Titan Company A/S.
Fredrikstad, NORWAY

Gentlemen:

We beg to acknowledge receipt of your letters of February 12 and 13, 1940, enclosing a revised draft of license agreement with DuPont.

The changes which you made in the original seemed to us to be quite proper with the possible exception of the alteration in Article 1, particularly the insertion of "use" in connection with the grant of the license. We were afraid that DuPont might interpret this as an endeavor to insert the right to use the products covered by the licenses in coating compositions and the like, which would conflict with their previous commitments. Accordingly, we went to Wilmington and personally discussed the revisions made by you. We are happy to advise you that the changes were made by DuPont and the drafts prepared by you were executed by them.

The document, as finally issued, bears the date of May 10th. A photostatic copy of the final executed agreement is enclosed herewith so that you may note certain corrections of a purely typograpic nature.

Very truly yours,

NATIONAL LEAD COMPANY

CFK:JM
c.c. Mr. C. F. Garesché

Exhibit 506

Letterhead of

NATIONAL LEAD COMPANY

AIR-MAIL

New York, May 27th, 1940

Dr. G. Jebsen
Titan Co., Inc.
26, Rue de la Pépiniere
Paris—VIIIe—France

Re: Proposed New Agreement
Between National Lead Co. and
Du Pont

Dear Dr. Jebsen:—

Enclosed herewith is a copy of a proposed new agreement between National Lead Company and Du Pont.

In the main, this follows very closely the previous agreement, with certain exceptions made necessary by the change in relations between the two companies.

Specifically I should like to call your attention to the following:

1.) Page 1, line 3: *New Jersey* will be inserted in the blank space.

2.) Article I terminates the previous agreement but confirms licenses already granted thereunder.

3.) Article II: The Licensed Field definition has been enlarged to include extender pigments where these are for use in connection with the preparation of composite titanium pigments. We have recently learned that there existed between Mr. Rupprecht, on the one hand, and Mr. Beschor-

man and Mr. Carter, on the other hand, an understanding that titanated lithopones, even though definable in terms of the Licensed Field definition, were to be considered as lithopone rather than titanium pigments and, hence, were not a part of the Licensed Field; we intend to put forward that this exclusion should be specifically provided for in the new agreement.

4.) Article III is the granting clause. As compared with the old agreement it does not include exchange of rights with respect to unpatented or unpatentable subject matter. It leaves open for agreement the period of months after which patent applications are to be exchanged. In line 9 F of this article the word "used" should be changed to read: *owned*. This article as it now stands would imply that the license does not begin to run until a certain number of months after the filing of the application. We intend to put forward that the license should run from the date of filing although the application is not actually exchanged until some time subsequent thereto.

In the old agreement, in the final paragraph, it is provided that either party could grant under their own patent rights to third parties licenses of the same character as granted to each other. This has been omitted in the new agreement, probably because the parties inherently possessed this right and to specifically state it might be superfluous. However, since it was in the old agreement, we see no reason why it should not be carried through into the new agreement.

5.) Article IV is substituted for Article III of the old agreement. This article provides only for the exchange of patent applications after a certain number of months from the date of filing.

6.) Article IV of the old agreement which provides for royalties has been eliminated.*

7.) Article V of the new agreement corresponds very closely to Article V of the old agreement, the only change being the insertion, in the first paragraph, that the rights to be exchanged under patent applications acquired by either party shall take place only after a certain number of months. We desire that the rights shall be exchanged as soon as either party acquires a patent application, although information regarding the acquisition shall not be transmitted to the other party until some months have elapsed. The second paragraph of this article provides for Du Pont to offer rights to the foreign associates of National Lead Company. The stipulation that these rights shall be under patents of any country of continental Europe and Great Britain is retained in the new agreement in the same form as presented in the old agreement.

We appreciate that the existence of the Japanese company bears upon this point and Du Pont is not under obligation to offer to the Japanese associate of National Lead Company any licenses.. In the past, as you know, Du Pont has always granted rights in Japan as requested by Titan Co., Inc. We are informed that Du Pont has to be very circumspect regarding patenting in Japan and relations with Japanese companies. Du Pont is so very essential to American defense activities that the War Department of the Government keeps a very close check on Du Pont's foreign relations, particularly in Japan. They are not permitted to allow Japanese visitors in any plant even remotely connected with national defense, except after first obtaining

*"Will that exclude information exchanged re knowledge of sales:" appears in longhand on face of exhibit following this sentence.

the permission of the United States Government. Hence, Du Pont would hesitate to make any commitments in advance concerning Japan. We believe, however, that their attitude with regard to granting licenses to the Japanese company will continue as in the past.

8.) Article VI: Du Pont has suggested that the cancellation period be changed to one (1) year. We will endeavor to have the three year period retained.

9.) Article VII in the new agreement is identical to Article VII in the old agreement.

10.) Article VIII is a new article providing that the rights to be exchanged between National Lead Company and Du Pont shall be limited on the part of Du Pont to the activities of their Krebs Pigments Department and on our part, to the activities of the Titanium Division of National Lead Company.

11.) Article IX corresponds to Article VIII of the old agreement.

In order that you may compare the two agreements, we enclose copy of the Titanium Pigment Co.—Krebs Pigment and Color Corp. agreements of January 1st, 1933 and January 1st, 1936.

Before coming to any agreement with Du Pont over the new agreement, we would like, if possible, to have your comments.

With very kind regards,

Yours very truly,

C. F. KAEGEBEHN

CFK:JL
Encs.

Exhibit 507

August 22nd, 1940

Dear Mr. Garesché:—

I enclose for your consideration a note commenting on the proposal from Mr. Rupprecht concerning a new agreement to replace the previous one of January 1st, 1933, between Du Pont and National Lead Company.

I am also sending this note to Mr. Rockwell.

I shall be very glad to discuss the matter with you at your first opportunity.

Yours very truly,

G. JEBSEN

C. F. Garesché, Esq.
Vice President
Titan Company, Inc.
Building

Exhibit 507

NOTES RE. DU PONT PROPOSAL FOR NEW AGREEMENT BETWEEN NATIONAL LEAD CO. AND DU PONT

It is considered preferable, to meet Du Pont's suggestions for changes in the relation with them by amending the Agreement of January 1, 1933 (Alternative I.) instead of substituting it with a new one (Alternative II.)

As regards the relations with Titan Co., Inc. and its foreign associates, a certain practice has been established on the basis of the present agreement which, as far as can be seen, does not seem to be impaired by the suggested alterations to such an extent that they are unacceptable. (With one or more exceptions of a more practical than fundamental nature.)

If, however, the old agreement is to be substituted by a new one (Alternative II.), several questions are more apt to arise:

1.) A renewed consideration of the various comments and criticisms of the agreement with Du Pont as regards the departure of this agreement from the 1920 License Agreement and its fundamental principles. (See reference below to correspondence.)

2.) Changes in the wording of certain articles in order to make clear what has been intended.

3.) The effect of losing the priorities consequent to abandoning the date of January 1, 1933 of the original agreement. (cf. 2nd paragraph, Art. V.)

If Alternative I. (amendment of the agreement of 1933) is accepted, the following comments should be considered:

Exhibit 507

ad. Art. II: Agree with the definition of the Licensed Field. If titanated lithopone shall be excluded, it ought to be mentioned.

ad. Art. III: The license should be for the life of the patents and not for a period of time, and on the sixth line "owned" should be substituted for "used".

ad. Art. IV: I understand that this is the main change contemplated and probably not a subject for discussion as regards exchange of experience and mutual visits. The period for disclosure of applications is of no interest to Titan Co., Inc. except as far as it may have a bearing on the stipulation in Art. V. For this purpose the period ought not to be more than six months.

ad. Art. V: This is the same as before with the exception of fixing a period to lapse before disclosure of applications. Regarding the stipulation in the second paragraph, this period should not be less than six months.

ad. Art. VI: The notice of one year for cancellation is a fundamental deviation from the considerations and the basis on which the I. G. Farbenindustrie gave its consent to the Agreement of January 1, 1933. It is a basic principle of the 1920 Agreement and the agreements built on this, that licenses of the scope dealt with in the Du Pont agreement should be of long duration. Three years notice should be retained.

Exhibit 507

I refer to the following correspondence:

Sender	*To Whom Sent*	*Date of Letter*
I. G. Farbenindustrie	Dr. G. Jebsen	June 20, 1933
Dr. Jebsen (Cable)	Mr. Beschorman	June 22, 1933
Extract of letter from Dr. Jebsen to Mr. Beschorman		June 23, 1933
Mr. Rupprecht	Mr. Beschorman	June 28, 1933
Mr. Beschorman	I. G. Farbenindustrie	July 12, 1933
Dr. Jebsen	M. Weber Andreae	July 21, 1933
I. G. Farbenindustrie	Dr. Jebsen	August 7, 1933

ad. Art. VII: No comments.

ad. Art. VIII: These stipulations are only apparently reciprocal and seem somewhat to National Lead Company's disadvantage.

If this Alternative I. is carried out, taking the above comments into account, I think Titan Co., Inc. should consider the question of approving the amendments, without previously consulting our European associated companies. The international situation may justify this. If Alternative II. is the only one to be considered for reasons which Du Pont may put forward, an approval by Titan Co., Inc. is a more delicate question.

It should be remembered that the Agreement of 1933 represents a drastic deviation from the fundamental principles of the 1920 Agreement. These principles had been presented to our associates as fundamentally necessary for the structure of the international coöperation which we intended to build up. They had been accepted in 1926-27 by the I. G. Farbenindustrie which in every respect con-

curred with them, and have since conscientiously adhered to and supported them. The proposal of National Lead Company to make the Agreement of January 1, 1933 with Du Pont was a very delicate matter to present to the I. G. Farbenindustrie and led to discussions and correspondence which forms an appendix of the greatest importance to the agreement.

An entirely new contract with Du Pont raises anew these questions which, however, I understand Du Pont will not be in a position to give more consideration than the last time.

The coöperation with Du Pont, as far as the European associates are concerned, has, however, been satisfactory in the years passed and it is, therefore, likely that a new agreement would be accepted even if it does not embody more in substance than the above suggested amended agreement, provided the war does not alter conditions in the international titanium structure fundamentally and provided we have the assurance from Du Pont that the spirit of coöperation within the lines drawn up, will remain the same as heretofore. But, there is a difference in the appearance and mode of handling the matter, which makes it more delicate for Titan Co., Inc. to approve a new agreement without previously consulting our associates.

If Alternative II. is inevitable, I suggest the wording of Art. V. should be changed so that it more clearly expresses the intention and lines on which the coöperation has taken place. I suggest the 2nd paragraph be worded as follows:

> "Du Pont further agrees that not later than six months after the filing of applications for United States Letters Patent it will offer to any foreign

associate of National Lead Company that may be designated by National Lead Company before offering to any other person, firm or corporation the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license within the limits of the Licensed Field under any applications which may be made or any patent which may be acquired regarding the invention or inventions covered by the United States application filed or issued in any country outside of North and South America * with the right to use and sell the products resulting from the use of such inventions throughout the countries of this territory as well as the countries lying south of the Panama Canal and Canada."

I beg to remark that the old agreement, in Art. V., last paragraph, uses the words "which now is or hereafter and during the term of this agreement may be owned or otherwise at the disposal of Du Pont", with reference to the patent rights to be licensed Titan Co., Inc. and its non-American associates. This wording reserves a preference to any obligations Du Pont may have previous to the date of the agreement. It will be seen that a change of the date of the agreement to 1940 instead of January 1, 1933 may have important consequences.

May I also mention the following: It seems only fair and in the spirit of the agreement that it should be extended so that the idea expressed in the first paragraph of Art. V. is applied to the coöperation concerning the territories outside the United States.

*Please note that the territories here mentioned are in accordance with verbally accepted practice, but larger than those mentioned in the 1933 Agreement.

Exhibit 507

Further considering Alternative II., we ought to have the assurance that the correspondence above referred to, particularly Mr. Rupprecht's letter of June 28, 1933, will apply also as long as the new agreement is in existence. I beg to add that I have refrained from mentioning some minor points, which I know have Mr. Kaegebehn's attention.

Exhibit 507

COPY

I.G. Farbenindustrie Akt.Ges. Translated from German.
Verkaufagemeinschaft Chemikalien

Frankfurt (Main) 20. June 1933.

Dr. G. Jebsen
Société Industrielle du Titane
Paris 8e
26 Rue de la Pépinière

Dear Dr. Jebsen,

We thank you for having sent us the draft for the proposed contract between Titanium Pigment Co. Inc. and the Krebs Pigment & Colour Corp., content of which we have read with interest.

We have carefully examined how this contract affects the interest-sphere of Titangesellschaft, and it seems to us, that at least one important point in the new contract has not been clearly expressed, namely that Krebs unconditionally have to respect the territory reserved Titangesellschaft in the License Agreement of October 1927 between Titan Co A/S and Titangesellschaft, that is that Krebs

a) shall not themselves manufacture in the territory of Titangesellschaft,

b) shall not make deliveries in this territory,

c) shall also impose upon their customers a corresponding obligation not to deliver in this territory,

d) shall grant sublicenses only to undertakings outside this territory and for use outside of this territory,

e) shall strictly observe the same limitation as under d) also regarding the experiences of which they get knowledge and which originate from Titangesellschaft.

We consider it of the greatest importance to have this point made clear, as otherwise the unbearable situation may arise for the Titangesellschaft, that Krebs compete with Titangesellschaft in the latter's territory, with T.G.'s own patent-rights and experiences, which are transmitted to Krebs through Titanium Pigment Company.

If this point is made clear, there exists, though, still a difficulty in so far as the contemplated agreement shall have a duration of only three years, so that after the termination of the agreement, Krebs is free to fight Titangesellschaft in the latter's own field, with the experience of the Titangesellschaft, acquired in the meantime.

As we, on the other hand, do not fail to recognize the great importance of the new contract for the extension of the international cooperation in the Titanium-field, and as we moreover hope that the cooperation between Krebs and the Titanium Pigment Co. will work so well that practically the termination of the contract after three years is hardly probable, we are ready to withdraw (zurückstellen) our doubts in this connection. We may, however, express the wish that our hesitation at least to some extent be taken into account, so that the duration of the new contract be fixed at—at least 5 years instead of three.

The wording of Art. 5 paragr. 2 of the new agreement does not so far quite correspond with (cover) the above mentioned basic principle, that Krebs shall not grant any licenses within the territory of Titangesellschaft and/or to

be made use of for this territory, inasmuch as the term "non exclusive license" has been used. Further, it would better correspond to the spirit of the agreement between Titangesellschaft and Titan Co A/S, if such licenses were granted Titangesellschaft free of cost, it should then be (es sei denn) that Krebs acknowledge, that also they have to pay to T.G. a corresponding compensation for the use of patent-rights originating from T.G., as it, according to information from Mr. Beschorman, seems to be intended, without we being able hitherto to find a confirmation of this in the agreement. The above mentioned basic principle that, according to the spirit of the contract between T.G. and Titan Co A/S, Titangesellschaft should be granted a license free of cost under the Krebs patents, applies also to new inventions, as such naturally practically always will result from the experiences resulting from the cooperation Krebs/Titanium Pigment Co/Titangesellschaft.

We should be obliged if Titanium Pigment Co could give us a certain reassurance also with reagrd to these points.

Asking you to transmit to Titanium Pigment Co. this our standpoint, we remain

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

Exhibit 507

COPY

NATIONAL LEAD COMPANY

111 Broadway, New York

The following is carbon copy of cable received this day

Paris, June 22, 1933

L.C. Beschorman Leadco New York.

Agreement Krebs acceptable to I.G. Farbenindustrie provided clearly expresses by Krebs in some form that they will respect Titangesellschafts territory not manufacture there, make no deliveries direct or by customers, give no sublicenses and no technical aid for manufacture within or for that territory Stop I.G.considers three years agreement short in view of parting with experience and suggests five years but makes it no condition

JEBSEN

Exhibit 507

COPY

EXTRACT OF LETTER FROM DR. JEBSEN TO MR. BESCHORMAN OF JUNE 23RD, 1933.

Dear Mr. Beschorman,

Monday 19th I met the I.G. people in Frankfurt. From I.G. were present:

Mr. Weber-Andreae,	one of the five commercial heads of I.G.
Dr. Kühne,	Leverkusen
Dr. Brüggemann,	"
Dr. Buhl,	I.G. lawyer, Frankfurt, former "Ministerialrat"
Mr. Borgwardt,	I.G. (manager of titanium sales).

We had first a meeting with

Dr. Mayer,	head of Verein für Chemische & Metallurgische Production *Aussig*, Czechoslovakia
Mr. Schaeffler,	from Aussig.

The agreement between Aussig and Titangesellschaft was discussed and the main points agreed upon—details to be worked out by Mr. Schaeffler and Mr. Borgwardt.

Afterwards the same gentlemen from I.G. discussed with me the draft agreement Titanium Pigment Co./Krebs.

The I.G. put forward exactly the same points, which I have laid down in my letter of March 1st to Dr. Thomp-

son, and made the same comments upon the draft as I did to you here in Paris.

I advocated the matter with the same arguments which you used, explaining the position between Du Pont and National Lead Co., the advantages of the agreement and the intentions as to the territories not licensed by the contemplated agreement—further the acceptance of the draft by British Titan Products Co. (I.C.I.).

Mr. Weber-Andreae seemed to have a fairly good knowledge of the way of cooperation between DuPont and I.C.I. He considered it, though, necessary to have a clear statement from DuPont about the important points,—not necessarily embodied in the agreement but for instance by exchange of letters between National Lead Company and Du Pont.

I hope you can arrange this without any inconvenience, particularly as it is an expression of the main points of your explanation to Dr. Kühne.

Mr. Weber-Andreae wanted also some minor points definitely included, for instance the compensation for important patents, but I got this changed to a statement from I.G. to us, not necessarily to be taken up with Krebs.

I enclose copy of a letter from the I.G. to me (with English Translation), stating I.G.'s standpoint and views.

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.....

Exhibit 507

P.P.S.—The discussions with the I.G. passed in the most friendly and cordial spirit.

It has been very difficult to translate I.G.'s letter making it exact and conveying at the same time the spirit.

I.G.'s intention has been to meet the National Lead Co.'s wishes as far as they considered possible, and to reduce to a minimum the points considered necessary to make the agreement compatible with I.G.'s interests,—expressing other important points without making them conditions.

I sent the cable with I.G.'s approval of the wording, as you might find it advisable to close with Krebs before Blumenfeld's arrival, and the other points, I presume, can be taken care of afterwards.

Exhibit 507

COPY

KREBS PIGMENT & COLOR CORPORATION

256 Vanderpool Street

NEWARK, NEW JERSEY

June 28, 1933.

CONFIDENTIAL

W. C. Beschorman, Vice Pres.,
National Lead Company
111 Broadway, New York City, N. Y.

Dear Mr. Beschorman,

We have considered the various points raised by I.G. in their cable to you with the desire, if possible, to comply with its request.

As you are aware, the Anti-Trust Laws of this country definitely prevent this Corporation from making any commitments respecting the territories of Titangesellschaft and Titan Inc. Further, these several companies are not parties to the Krebs-Titanium Pigment Agreement and so, as to them, we are unable to make any direct commitment. However, since Article 2 of the Krebs-Titanium Pigment Agreement definitely provides that Krebs is limited both in respect to use and sale to the territories set forth in this Article, we think the result will be eminently satisfactory to your foreign associates. As to controlling the disposition of our products by our customers, we are sure you appreciate the difficulty both from a legal and practical standpoint.

Exhibit 507

The I.G. request that Krebs grant no sub-licenses or technical aid to others in the territories of the foreign companies, is tantamount to obligating Krebs to grant exclusive licenses. The whole agreement, you will recall, for definite reasons, was placed on a non-exclusive bases. Since all licenses received by Krebs under its foreign patents, are subject to negotiation, we believe there will be no difficulty in working out a solution that will be acceptable to all parties; it may well be that such negotiations will result in exclusive licenses to your foreign associates. Naturally we shall treat technical information in the same manner as our patents.

The present form of our Agreement is the result of much care and thought on the part of both parties. It embodies, as we see it, a practicable working basis for both companies, as well as for your foreign associates.

Yours very truly,

(Signed) C. H. RUPPRECHT
President

1614

Exhibit 507

COPY.

July 12, 1933.

I.G. Farbenindustrie
Aktiengesellschaft
Frankfurt (Main)
Grüneburgplatz

Dear Sirs:

Immediately upon receipt of cablegram of June 22nd from Dr. Jebsen, copy of which is attached, we took the matter up with the Krebs Pigment & Color Corporation, submitting to them a copy of the cable, and take pleasure in handing you copy of their reply under date of June 28th. Careful reading of the Krebs letter will surely indicate to you the spirit in which they are entering into this contract and their efforts to meet your views. We feel that experience will prove that such will be the case.

In regard to the phrase "non-exclusive license" to which you call our attention as occurring in Article 5, Paragraph 2, we have to refer to the United States Anti-Trust Laws which absolutely forbid the granting of exclusive license between two manufacturers in the United States as such a practice would tend to create a monopoly. Therefore, the use of this phrase "non-exclusive license" is simply to comply with the United States Laws and in practice the licenses under each others patents will undoubtedly prove to be, to all intents and purposes, exclusive.

Referring subsequently to the points brought out in your letters of June 20th, under A, B, C, D and E, you will note that the Krebs Company consider themselves limited both

as to use, manufacture and selling to the territory granted to them by the agreement. While this agreement does not specifically prevent Krebs from exporting into your territory any products not manufactured under the patents of the Titanium Pigment Company and its associated companies, it will be a difficult matter to discriminate between such manufacture and manufacture under their patents and maintain close and good co-operation, and the practical effect will be that Krebs will refrain from such export.

As to exports by clients of the Krebs Company, we note that Krebs will use all their efforts to prevent any export outside of their territory, which would cause any trouble to you in any way.

In regard to licenses, although non-exclusive licenses are specified throughout the agreement, you will note from the letter of Krebs Company that they are not adverse to granting exclusive licenses, in case this may be found desirable by you. Under the practice, as we foresee it, these licenses will be given against a nominal payment except in cases of outstanding development.

We also see your point, that by the exclusive license you have given Titan Co. Inc., which has granted exclusive licenses to the Titanium Pigment Co. Inc., you are not in position to trade with Krebs regarding any American patents belonging to you. However, you may rest assured that your interest in these respects, which are also our own interests in view of our part ownership in the Titangesellschaft, will be fully and completely looked after.

At one time we considered the question of an agreement between the Titangesellschaft and Krebs covering the points in your letter, but have dropped this idea as we felt that you would be better served to have us look after your interests than to complicate the situation with a separate contract.

Exhibit 507

The only other point in your letter which we do not believe has been covered is your suggestion that the contract be changed from termination in three years to termination in five years. Frankly, there is no possibility of the contract being terminated at any time that we can foresee, and I am glad that you did not make any especial point of this either in the cable or in your letter of June 20th.

May I add that we certainly appreciate your attitude and the views you have put forward in your letter to Dr. Jebsen and trust that you will not be disappointed in the future by following the lines we have suggested. May we ask for further advice from you as to whether the Krebs letter and above make the whole matter satisfactory.

Very truly yours,

Executive Vice President

Exhibit 507

COPY.

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26 Rue de la Pépinière
Paris, France.

July 21, 1933

I.G. Farbenindustrie Aktiengesellschaft
Verkaufagemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Direction.

Dear Sirs:

Re: Contemplated Agreement between Titanium Pigment Co., Inc. and Krebs Pigment and Color Corporation.

I have forwarded your favor of June 20th to Mr. W.G. Berschorman, Executive Vice President, National Lead Company, and a Vice President of the Titan Company, Inc. and a director of the Titanium Pigment Co.,Inc., and beg to enclose a letter from him which he, on my request has addressed direct to you.

I hope this will meet the various points in your letter of June 20th and shall look forward to your reply.

Yours very truly,

Vice President

Exhibit 507

COPY

.....

.....

26 Rue de la Pépinière
Paris, France July 21, 1933.

M. Weber Andreae, Esq.
c/o I.G. Farbenindustrie Aktiengesellschaft
Varkaufagemeinschaft Chemikalien
Frankfurt (Main) 20
Grüneburgplatz

Dear Mr. Weber Andreae:

I beg enclosed to send to you a letter addressed to I.G. Farbenindustrie with enclosures.

I have met Mr. Rupprecht, President of the Krebs Pigment and Color Corporation, who verbally has expressed to me the same views as to the future co-operation which has been expressed by Mr. Beschorman.

Considering the views and interpretations as expressed by Mr. Beschorman, and by Mr. Rupprecht in his letter to Mr. Beschorman, it seems to me that a co-operation can be looked to which will be of important benefit to Titangesellschaft.

Awaiting I.G. Farbenindustrie's answer, no agreement has been signed yet. It is considered desirable to treat the matter strictly confidential.

With kind regards,

Very truly yours,

P.S.—I will be back in Paris at the end of this month or the first days of August, and expect to leave shortly thereafter for a holiday.

Exhibit 507

COPY

Translation.

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT,
FRANKFURT (MAIN) 20

(Legal Department)

Dr. Jebsen
26 Rue de la Pépinière
Paris, France.

August 7th 1933.

Dear Dr. Jebsen,

The point of view which the National Lead Co. has taken in the letter of July 12th 1933 signed by Mr. Beschorman, Vice President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th 1933 signed by Mr. C. H. Rupprecht, President, of which also a copy has been submitted to us; does not formally correspond with the wishes which we expressed to you in our letter of June 20th 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment & Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th 1933.

Your declaration that the duration of the agreement will not end after three years, also that the licenses which Titan-

gesellschaft will receive from Krebs, will be granted, except in exceptional cases, only against a nominal fee, more than suffice for us. The exceptional cases concern possible inventions by Krebs of especially outstanding importance. Krebs shall offer us these on reasonable conditions. Exceptionally, Krebs will though be free to utilize these especially outstanding inventions in T. G. territory in case T.G. does not accept, within reasonable time, an offer on reasonable conditions.

Our consent to the agreement between Krebs Pigment and Color Corporation and Titanium Pigment Company being closed is given with the reservation that for us, respectively Titangesellschaft, no liabilities may arise from same which are not compatible with the existing contractual obligations.

We beg to add our heartiest thanks for the trouble you have taken and remain

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENGESELLSCHAFT

(signed) Weber-Andreae (signed) Mayer-Wegelin

Exhibit 508

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 20, 1940

C. H. RUPPRECHT, ESQ.
KREBS - NEMOURS BLDG.

RE: AMENDMENT OF DU PONT - TITANIUM PIGMENTS AGREEMENT

Attached find three copies of a proposed working draft in amendment of the January 1, 1933 agreement between Krebs and T.P. I have discussed this draft with Mr. Biesterfeld who indicates approval in principle. Final approval from him has been deferred until after discussion with T.P. and presentation of the contract in final form. I have not had an opportunity to consider the accompanying draft with Mr. Abrams, due to the fact that he is now absent in Washington and will not return until Monday next. However, in view of Mr. Biesterfeld's approval in principle, it appears likely that Mr. Abrams may have no present objections to the proposed agreement.

I must be in Washington to interview an Examiner on Monday, but may return in the late afternoon. You indicated the arrangement of a tentative conference with T.P. and desired to be informed in this matter as quickly as possible. Hence, I am sending you the accompanying working drafts, copies of which you may desire to forward to T.P. for their consideration prior to conferring with them. If you prefer, we can await Mr. Abrams' approval before sending any copies of the draft.

In brief, the affected articles of the old agreement, I, II, III and V, are being cançeled, to be substituted by the like designated articles of the accompanying draft. These new articles embody the changes which we discussed, particularly that the Licensed Field shall include inorganic extenders; that the license exchange shall only involve issued U.S. patents and applications therefor filed by either party and pending for at least six months from their filing date; as well as pending applications which either party may purchase or acquire, rights under the latter to arise only after the expiration of six months from the date of purchase or acquisition, unless the patent in the meantime shall issue, in which event the license right thereunder immediately comes into being. Provision is also made for the exchange of pending patent specifications not later than six months after filing. Also, Japan has been included along with Continental Europe and Great Britain as a country in which we will grant a non-exclusive license to T.P. associates.

The proposed agreement also provides that to National has been assigned all the rights and obligations of T.P. under the January 1, 1933 agreement. This corresponds to the Krebs assignment, dated January 1, 1936, to du Pont. For the sake of the record, I believe a reference to a like assignment, presumably existent, on the part of National Lead should be mentioned in the agreement.

JOHN P. HANCOCK
John P. Hancock

JPH:H
Enc.

Exhibit 508

AGREEMENT

This agreement, made and entered into this day of 1940, by and between NATIONAL LEAD COMPANY (hereinafter called NATIONAL), a corporation organized and existing under and by virtue of the laws of the State of New Jersey, and having a principal office and place of business in New York, New York, and E. I. DU PONT DE NEMOURS AND COMPANY (hereinafter called DU PONT), a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having a principal office and place of business in Wilmington, Delaware;

WITNESSETH,

WHEREAS, on January 1, 1933, THE TITANIUM PIGMENT COMPANY, INC., a corporation organized and existing under the laws of the State of Maine, and KREBS PIGMENT AND COLOR CORPORATION, a corporation organized and existing under the laws of the State of Delaware, entered into an agreement providing for the granting to each other of certain licenses under their respective inventions and within the "Licensed Field" defined in said agreement; and

WHEREAS, under an instrument dated January 1, 1936, by and between DU PONT, said TITANIUM PIGMENT COMPANY, INC., and said KREBS PIGMENT AND COLOR CORPORATION, DU PONT became assigned of and assumed all of the rights and obligations of the KREBS PIGMENT AND COLOR CORPORATION under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

Exhibit 508

WHEREAS, under an instrument dated 19 , by and between NATIONAL, said TITANIUM PIGMENT COMPANY, INC., and DU PONT, NATIONAL became assigned of and assumed all of the rights and obligations of THE TITANIUM PIGMENT COMPANY, INC. under said January 1, 1933 agreement without changing in any wise the scope or effect of said agreement, as more specifically provided for in said instrument;

WHEREAS, NATIONAL and DU PONT, as the respective assignees under said agreement dated January 1, 1933 between THE TITANIUM PIGMENT COMPANY, INC. and KREBS PIGMENT AND COLOR CORPORATION, desire to amend the same;

NOW, THEREFORE, in consideration of the premises and the mutual promises, covenants and undertakings hereinafter set forth, it is hereby mutually agreed between NATIONAL and DU PONT that said January 1, 1933 agreement shall be and the same is hereby amended as follows, to-wit:

1. That Articles I, II, III and V of said agreement be canceled and in lieu thereof the following Articles be substituted:

ARTICLE I

The term "Licensed Field", wherever herein employed shall be deemed to include (1) all methods, processes and apparatus in the field of manufacture and use of all titanium compounds containing two per cent. (2%) or more of the element titanium in a chemically, mechanically or physically combined state, and mixtures thereof, which can be used as pigments, whether or not adopted for other

uses, and also inorganic extenders adapted for use in conjunction with such titanium compounds; and (2) all such titanium compounds and mixtures which can be used as pigments, whether or not adopted for other uses, and also inorganic extenders adapted for use in conjunction with such titanium compounds; provided, however, titanated lithopone shall not be deemed as included within said Licensed Field.

ARTICLE II

NATIONAL and DU PONT, during the term of this agreement, grant to each other, within the limits of said Licensed Field and as to which NATIONAL or DU PONT shall be free to grant such rights, an irrevocable and non-exclusive right and license, throughout the United States of America, its territories, colonies, and possessions, present and future, Mexico, Central America, the West Indies, and South America:

(a) under all original or reissue Letters Patent of the United States, now or hereafter owned or controlled by either party;

(b) under all applications for Letters Patent of the United States now or hereafter owned or controlled by either party and which have been pending for a period of at least six months from date of filing; and

(c) under all pending applications for Letters Patent of the United States purchased or acquired by NATIONAL or DU PONT from third parties, after the lapse of a period of six months' time from their date of purchase or acquisition; provided, however, that in event any such application shall issue to patent prior to expiration of said six months'

period, the license herein provided for under any such application shall be deemed to exist on and after the date of issue of said patent.

It is understood and agreed that the rights vested in the parties hereto shall include the right to sell the products resulting from the use of any licensed process, method and apparatus of manufacture described in the licensed patents and/or applications, throughout the aforesaid licensed territory.

Notwithstanding the limitations of the Licensed Field, as herein defined, it is understood and agreed that each of the parties hereto shall have the right to sell, within the licensed territory of sale specified in this Article, any and all intermediate products of manufacture under the license hereby granted, whether or not such intermediate products are intended or adapted for use as pigments.

It is further understood and agreed that all purchasers from either of the parties hereto of any product intermediate or final of manufacture under the license hereby granted shall be privileged to use the product so purchased for any and all purposes.

Nothing in this Article contained shall in any manner limit or restrict the right of either party hereto to grant third parties licenses of the same character and scope of the license granted by it under this Article.

ARTICLE III

Each party hereto agrees not later than six months from the date of filing any application for Letters Patent of the United States for any invention within the Licensed Field to make full disclosure to the other of the specifications and claims under any such application for United States Letters

Patent so filed by said party. It is understood and agreed that the disclosures contemplated by this Article shall be made only by and to officials specifically designated in writing for that purpose by the respective parties hereto.

ARTICLE V

Each party hereto agrees during the term of this agreement to use its best efforts to assist the other to acquire, on terms as favorable as possible to the other, an irrevocable and non-exclusive right and license to manufacture, use and sell, within the limits of the Licensed Field and licensed territory, under any United States original or reissue Letters Patent, or under any application for United States Letters Patent or reissue which has been pending for a period of not less than six months from its filing date, owned by or otherwise at the disposal of other companies, firms or individuals, domestic or foreign, under which such party hereto itself is licensed.

DU PONT further agrees that not later than six months after the filing date of any licensed application for Letters Patent of the United States it will offer to any foreign associate of NATIONAL that may be designated by NATIONAL, before offering to any other person, firm or corporation, the opportunity to acquire, upon mutually satisfactory terms and conditions, an irrevocable and non-exclusive license, within the limits of the Licensed Field aforesaid, under any application or patent relating to the Licensed Field filed or issued in any country of Continental Europe or in Great Britain or Japan, which now is or hereafter and during the term of this agreement may be owned or otherwise at the disposal of DU PONT.

Exhibit 508

2. It is understood and agreed between the parties hereto that except as specifically amended herein, each and all of the other provisions of said agreement of January 1, 1933 shall remain in full force and effect and that the amendment and cancelation herein provided for shall not in any manner operate to terminate, restrict or impair the licenses heretofore acquired by either party from the other under said January 1, 1933 agreement.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be executed, in duplicate, by their respective proper officers, duly authorized, and their respective corporate seals to be hereunto affixed as of the day and year first above written.

NATIONAL LEAD COMPANY,

By.....

ATTEST:

.....

E. I. DU PONT DE NEMOURS AND COMPANY,

By.....
General Mgr., Krebs Pigments Dept.

ATTEST:

.....

Exhibit 509

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY

September 24, 1940

G. F. Garesché, Manager,
Titanium Division,
National Lead Company,
111 Broadway,
New York City, N. Y.

Dear Mr. Garesché:

Pursuant to our telephone conversation of today, I am enclosing two copies of proposed draft of amendment to our licensing agreement of January 1, 1933 on titanium pigments patents.

This is, as explained, in tentative draft form and has not had the necessary approvals of our Legal and Executive Departments.

Mr. Hancock and I will be pleased to drop in at your office at 10:30 A.M. on Friday, September 27th, for discussion as arranged.

Yours very truly,

C. H. RUPPRECHT
C. H. RUPPRECHT, GENERAL MANAGER

CHR/d
enc.

Exhibit 510

Approval of I. G. (T. G.) and B. T. P. to Krebs—Titanium Pigment Co. Agreement

January 14th, 1941

Dr. G. Jebsen

Mr. C. F. Kaegebehn—Patent Department

Dear Dr. Jebsen:—

Regarding approval of the I. G. to the original Krebs-Titanium Pigment Co. Agreement, I find the following statement contained in a translation of a letter sent to you at Paris under date of August 7, 1933 from the I. G. (Legal Department), signed by Messrs. Weber-Andreae and Mayer-Wegelin:

> "The point of view which the National Lead Co. has taken in the letter of July 12th, 1933 signed by Mr. Beschorman, Vice-President, and which appears from a letter from the Krebs Pigment & Color Corporation of June 28th, 1933 signed by Mr. C. H. Rupprecht, President of which also a copy has been submitted to us, does not formally correspond with the wishes which we expressed to you in our letter of June 20th, 1933. We note though from these letters the assurance that National Lead Co. and Titanium Pigment Co. as well as their new American Contract Partner, the Krebs Pigment and Color Corporation, will loyally respect the delimitations as regards manufacture, granting of licenses and sale, which are fixed in the agreement between Titan Co. and Titangesellschaft. Relying on this loyal

promise, we renounce on the formal confirmation of the wishes expressed in our letter of June 20th, 1933."

The letters of Mr. Beschorman of July 12th, 1933 and Mr. Rupprecht of June 28th, 1933 above referred to contain certain assurances desired by the I. G.

It is clear from the correspondence that the I. G. considered that they were approving the agreement between Krebs Pigment & Color Corporation and Titanium Pigment Company, Inc. as the contracting parties. They were informed by Mr. Beschorman in his letter of November 2, 1933 that the Titanium Pigment Co., Inc. was a wholly owned subsidiary of National Lead Company.

With respect to B. T. P.'s approval, I find that the Minutes of the Board of Directors' Meeting of that Corporation for July 29th, 1933 (Minutes No. 123) read as follows:

DEVELOPMENT

With reference to Minutes Nos. 92 and 107 relating to the agreement between Duponts and Titanium Company, Inc., the undermentioned correspondence, since received, was read and discussed:—

Letter from Mr. W. C. Beschorman (Executive Vice-President of the National Lead Co.) to Mr. H. S. Tasker (Vice-Chairman of the B. T. P. Co. Ltd.) dated 14th July, 1933.

Letter from Krebs Pigment and Color Corporation to Mr. W. C. Beschorman dated 28th June, 1933.

Exhibit 510

Letter from Mr. W. C. Beschorman to I. G. Farbenindustrie Aktiengesellschaft, Frankfurt, dated 12th July, 1933.

Copy of cable to Mr. W. C. Beschorman from Dr. Jebsen dated 22nd June, 1933.

Draft agreement dated 1st January, 1933, between Titanium Company, Inc. and Krebs Pigment and Color Corporation.

In the light of the above the Board decided to accept Mr. Beschorman's recommendation and the draft agreement between Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation was approved, subject to such approval not involving the B. T. P. Co. Ltd. in any breach of its license agreement.

Subsequently, on November 2nd, 1933 Mr. Beschorman wrote to Mr. Robinson as Chairman of the Board of B. T. P., expressing his appreciation for the coöperation of B. T. P.'s Board and in this letter mentioned that Titanium Pigment Company was the wholly owned subsidiary of National Lead Company.

I further find that on November 2nd, 1933 Mr. Beschorman wrote to you, enclosing copies of his letters of November 2nd, 1933 to the I. G. and to Mr. Robinson. With his letter to you, Mr. Beschorman encloses a draft of resolution to be adopted by the Board of Titan Co., Inc. and asked your approval or criticism. This resolution reads as follows:

"RESOLVED, that this corporation, as successor in interest of Titan Co. A/S under that certain Agree-

ment between said Titan Co. A/S and The Titanium Pigment Company, Inc., dated July 30, 1920, hereby consents to and approves that certain Agreement between said The Titanium Pigment Company, Inc. and Krebs Pigment and Color Corporation dated January 1, 1933, submitted at this meeting, particularly in the respects in which the provisions of said Agreement dated January 1, 1933, do not strictly conform to the requirements of said Agreement dated July 30, 1920."

It is entered in the Minutes Book as passed at a Special Meeting of the Board of Directors, held December 13th, 1933.

The question of the form of approval which may have been given by Société Industrielle du Titan to Titan Co., Inc. is still to be investigated.

Yours very truly,

CFK:JL

Exhibit 511

Letterhead of

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

KREBS PIGMENTS DEPARTMENT

May 16, 1941

National Lead Company
111 Broadway
New York City, New York

Gentlemen:

We would like to refer to our titanium pigments agreement (as amended January 1, 1941), and particularly to Article V thereof providing that du Pont, after the lapse of a definite period of time, shall offer your foreign associates an opportunity to acquire a non-exclusive license under involved applications or patents filed or issued by us in certain foreign countries.

In view of the present international emergency, and bearing in mind the constantly growing list of difficulties, particularly in the nature of Government restrictions on the exporting of patent application and related information, we propose that it be mutually agreed between us that until the present emergency has passed and to the extent that the above article may apply to any firm or other party associated with you in Germany, Italy, or Japan, or in any country occupied by these nations, we discontinue the grant of future license rights to as well as the exchange of applications or patents with such firms or parties. We would also propose, until the present emergency terminates, that

you refrain from sending to such foreign associates copies of any United States patent applications or information thereon, which we may file and subsequently submit to you in accordance with our agreement. It is understood that all other obligations of our agreement continue in full force and effect.

If you are agreeable to the foregoing proposal, will you kindly signify your acceptance by executing and returning to us the enclosed duplicate original of this letter?

Very truly yours,

C. H. RUPPRECHT
General Manager.

Accepted, May 19, 1941

NATIONAL LEAD COMPANY

By C. F. G.

Exhibit 512

Draft of letter from Titan Co. Inc.
to be sent later,* presumably after the war, to:

I. G. Farbenindustrie
Titangesellschaft
British Titan Products Company
Ste. Inc. du Titane

We refer to the Agreement of January 1, 1933 between Titanium Pigment Company, Inc. and Krebs Color & Chemical Corporation, later assigned to and assumed by the National Lead Company and E. I. DuPont De Nemours & Company, respectively.

According to the desire of Du Pont this agreement has been amended January 1, 1941, as per the enclosed copy of an agreement entered into under that date for this purpose.

The principal amendment will be found in the change of Article Three of the old agreement which provided for disclosure, as promptly as practicable, of full technical information within the Licensed Field, and of letters patent and applications for letters patent within the Licensed Field. This change has been limited to disclosure of applications for letters patent of the United States, and instead of such disclosure being made promptly it is to be made not later than six months from the date of filing.

The Licensed Field in Article One remains the same with the following exception—that inorganic extenders have been included whereas titanate lithopone has been ex-

*"By Dr. Jebsen" appears in longhand on face of this exhibit after the word "later."

cluded from the Licensed Field. We beg to remark that titanate lithopone has in practice never been included in the Licensed Field, as it has been understood from the beginning that this was to be kept outside. It has now however been found advisable to have this understanding formally recorded in the agreements when changes are made. You may remember that licenses under inorganic extenders have been exchanged although not mentioned in the Licensed Field Agreement of 1933 (Note Du Pont Patent etc. etc.). As far as can be seen the amendments do not affect the rights which were secured you and our other associates under the Agreement of 1933, and the spirit with which this has been carried out, with the exception that mutual visits of plants made may cease. I say made, because the visits have been a matter of courtesy as far as our associates are concerned. What can be provided for there in the future may depend upon circumstances, but it may be foreseen that such visits will be more difficult to undertake or permit, as visits between the National Lead Company and Du Pont will cease.

The National Lead Company consulted the undersigned before the above amendments were accepted. Under normal circumstances we would have consulted with you before making any changes, but this was during the war conditions, a reason no doubt you will appreciate in peace time, and as the amendments only affect your and our interests in a relatively slight degree, and do not have any bearing upon important parts of the Agreements, we have considered it to our interest not to raise any objections. The alternative would have been an announcement for the termination of agreements between Du Pont and the National

Lead Company to end after the foreseen period for termination—three years.

Trusting that our point of view will meet with your approval, we shall much appreciate to hear from you to this effect or receive any comments you may wish to make.

Yours very truly,

Exhibit 513

Letterhead of

TITAN CO. A/S

GJ/KL

Fredriksstad, July 20, 1927.

Evans McCarty, Esq.,
London.

Dear Mr. McCarty:

Many thanks for your two letters of July 11th.

Re. Blumenfeld

When I see Dr. Kühne next I hope to obtain more definite information with regard to this gentleman's process. Already years ago information reached us that Blumenfeld had told that he was producing TiO_2 at costs which had been considered as very cheap, and even a small sample, which Mr. Gilbert had gotten hold of, was presented to me nearly two years ago.

I have never been able to get this information confirmed. Blumenfeld is a great talker. However, one day something may result from his efforts, or rather from the efforts of his associates.

I have just received a letter from Mr. Gilbert enclosing a report from his inspector, Mr. Ruffier regarding a visit the latter paid to Mr. Brückmann at Mühlhaus, who is our local agent there. He is at the same time the representative of Thann & Mühlhaus for other chemical products. Mr. Ruffier writes:

"Mr. Bruckmann has been asked by Mr. Binder, who is connected with Blumenfeld, if he will occupy himself with the sale of Titanium in France. He has answered

that his connection with Societe Industrielle du Titane does not allow him to occupy himself in the Rhein district. Mr. Binder has not insisted. Mr. Ruffier says that Mr. Bruckmann is in every respect loayl and correct. As long as he is with us there is nothing to fear from him. However, if Thann & Mühlhaus one day manufacture regularly a more appreciated product than ours at better conditions, he may prefer to serve a local factory, but he will do it loyally and one will never have to complain about him."

Mr. Ruffier says further:

"Mr. Bruckmann has never met any offer from Thann, and his position as a friend of the factory manager and of shareholders does not permit him to ask for confidential information in order to communicate them to competitors.

He thinks it possible that deliveries are made from time to time, because a factory and installations have been made to this purpose, but he has no precise information.

Mr. Bruckmann thinks that the actual financial position of the company at present is more than sufficient to collect all capital necessary; and that if the technical purposes have not been obtained, the reason is the insufficient technical management of that department; but that the new Management and the support from Czecho Slovakia may quickly conquer the last difficulties, and that it would be an error to underestimate such a competitor, and still more to confuse Ste. de Terrare, Ste. Nord & Alpes with Thann & Mühlhaus. This last business has proved its position in

other branches and is composed of healthy elements and has shareholders and resources of first order as to finance and organization.

The business has intimate connection with Saint-Gobain. It is in very close connection with the Czecho-Slovakian group, which gives it an appreciable technical support. The business has been managed by Mr. Comment, who recently died and who has been ill for a long time. A person which has large interests has indicated that the consequence may be not only the nomination of a new general manager, but also a change of the members of the board, which at present consist of elements which are rather distant from the present conditions. This modification may bring a new situation with regard to the department for TiO_2, and it is supposed that the technical element of Czecho-Slovakia will be closer connected, and that the TiO_2 factory will be annexed to the Sulphuric Acid factory of Saint Gobain."

I give you this information from Mr. Ruffier for what it may be worth. There may be something in it, but it may also be, as much previous information, without sufficient foundation, being more or less rumors.

You will remember that the company who holds the process of Blumenfeld is Ste. Nord & Alpes, whose shares, according to Mr. Lobstein and Mr. Gilbert, have been boomed to about four times their value, without much, if any, backgrounds.

Ste. Nord & Alpes is the chief interested party in Ste. des Terres rares, which was Blumenfeld's original basis and

a competitor to Franco Brasilienne and which has had no success.

Thann & Mühlhaus, which is a well-known and good company, has operated in connection with Ste. Nord & Alpes, probably under some license.

The Czecho Slovakian group mentioned must be "Aussig", about which I informed you earlier in the spring; and it is the "Aussig" factory which I understand Mr. Kühne has visited.

Further there is Montecatini in Italy, which factory has not been able to produce, according to information from Mr. Ruffier which I translated for you when in Paris.

Please let me know soonest possible the definite date of the arrival of Mr. Moses, whom, I understand, you will meet in these days, as it is desirable to inform I. G.

I am sending today a proposal for the scheme for the calculation of the productions costs of our Ilmenite, and hope to receive the final agreements from the I. G. in the middle of next week.

According to information from Mr. Vogt of today, there were on the 15th of this month outstanding 13 preferred shares A. and 513 ordinary shares. He tells me that yesterday 6 ordinary shares arrived, and it is expected that because of the holidays some more shares will arrive in the nearest future. He has been asked by the Bank whether they shall be accepted.

Mr. Vogt mentioned that in a letter of July 5th you expressed the hope that by July 15th all of the outstanding shares will have been turned in. He says that he understands this expression so that you prefer to have all the shares taken over; on the other hand, he hesitates to extend the time limit which you have fixed and asks my opinion. Please let me know.

Exhibit 513

Mr. Vogt mentioned further that it is necessary to have one share in his name in order to be able to represent the National Lead Company at the coming stockholders meeting. Do you want him to buy one of the National Lead Company's shares, or to hold one nominally? For the stockholders meeting on July 25th I will transfer one of my ordinary shares to his name, for the sake of formality.

Mrs. Jebsen and I had quite a comfortable trip back to Norway. We arrived Saturday evening ten days ago and went direct to Hankö, and I have only been at the office one day last week and today. We have had the most wonderful weather—warm with brilliant sunshine. I hope Mrs. McCarty and yourself will meet with the same weather on the holidays which I presume you are now taking.

Your visit to Norway and our trip together on the Continent and in England were a great pleasure to us, and we hope your coming visits will be favoured by better weather than this time in Norway.

With kind regards to Mrs. McCarty and yourself from my wife and myself.

G. JEBSEN

Exhibit 514

December 30, 1927

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your favor of the 14th instant No. 30 with enclosures referring to taxes, the Societe Francaise du Titane and the competition that is developing from the Auer Gesellschaft and the Blumenfeld Companies.

We will soon have similar competition in America from the Commercial Pigments Company of Baltimore the concern with which Mr. Chase is connected, and which will manufacture by the Blumenfeld processes.

This competition makes it necessary for us to decide whether or not we are to take any legal action to enforce our patent rights, and as there are many things to be discussed in this connection I would like an opportunity to discuss the subject with you personally before reaching a final decision.

In the meantime, will appreciate it if you will obtain and send to us samples of from 5 to 10 pounds each of the Montecatini and Thann & Mulhouse products.

I will refer further to the other matters discussed in your letter a little later on.

Yours very truly,

McCARTY

Exhibit 515

Letterhead of

TITAN CO. A/S

SJH/AK

Paris, April 10th 1928.
c/o Sté Industrielle du Titane
26 Rue de la Pépinière

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Referring to Dr. Jebsen's letter of April 5th, we take pleasure in enclosing a translation from German of the memorandum from the meeting held at Leverkusen the 28th of February 1928, regarding negociations with the Auer Gesellschaft.

Yours very truly,

S. J. HENRIKSSEN

Exhibit 515

Translation from German.

I.G. Farbenindustrie
Aktiengesellschaft
Leverkusen

Conference with representatives of the Auer-Gesellschaft regarding Titanium White Tuesday February 28th 1928, in Berlin, Bendlerstr.

Present:

Dr. Frentzel
Dr. D'ans
Dr. Kühne
Dr. Raspe,

Mr. Frentzel states that Montecatini have approached the Auer-Gesellschaft regarding the sale in Germany of their surplus Titanium White. If the Auergesellschaft would take over a certain quantity of the Italian product, Montecatini would renounce on selling in Germany. Such an obligation the Auer Gesellschaft cannot take over alone, in case it is preferred to make an arrangement instead of competing. They would therefore get in touch with the I.G. in order to negociate in this connection regarding a general agreement between the titanium producers. It is advisable to give a quick reply to Montecatini as there is a limited delay which will soon expire.

Mr. Kühne replies that it is impossible for him to take an immediate decision as he first has to get in contact with his American and Norwegian business-friends. In his opinion it would be too early to arrive to an

agreement at present as each separate factory feels itself too strong and would put forward unacceptable claims. It would therefore be best first to meet each other in free competition in order to ascertain what each separate firm can offer regarding quality and price.

Auer states to have foreseen a daily production of 10.000 Kg. TiO_2.

The I.G. states that they will start with the equal daily production but will not bring on the market a 100% TiO_2 but a composition-pigment of TiO_2 + Blanc-Fixe.

Aüer considers these quantities as normal to be brought on the market, in particular when the restrictions regarding lead-white come into effect. Montecatini's price is 7 lire and is even reduced to 5 lire franco Chiasso. One can therefore presume that the cost-price of the Italians is about M. I.

Mr. Kühne believes that Montecatini, owing to their cheap *sulphuric* acid, can manufacture at the above mentioned cost-price. Aussig's prices must however be higher on account of the generally less favourable situation regarding the freights of the heavy chemicals. The I.G. who is now constructing the most modern titanium factory, has also the cheapest sulphuric acid and feels therefore particularly strong to fight the competitors with regard to prices.

Aüer emphasizes that without an agreement the price will be so low that it will be detrimental to all the parties concerned, and proposes as the first step to be taken with regard to Itally, to inform them to follow a rea-

sonable policy as, sooner or later, there will be an agreement and at that time too much should not already have been lost. An increase of the price would be very difficult.

Mr. Kühne states that he will inform the other party from Leverkusen, which will be the first step proposed by the I.G. as regards the possibility of getting in touch with other titanium producers.

Auer lays a particular stress thereon that during the negociations Montecatini should not be left out, as according to their opinion, Montecatini has taken over the leadership of the Blumenfeld group. He also believes that Montecatini delivers through Aussig to Münz, Berlin. The negociations should take place under the assumption that 1. no quota-bargain (Quotenaushandeln) should take place and 2. that fight as to price should be avoided, as far as possible.

Establishment of a norm (Normung)

The I.G. can see the necessity of the establishment of a norm for Titanium White, but considers it too early to participate in the establishment of such a norm.

Auer emphasizes that lately from various sides, products have been sold under the name of titanium white, which contain only 3—4% of TiO_2. Such products are detrimental to the entire titanium industry as a product containing such a low percentage naturally cannot have the excellent hiding power of normal titanium white. Auer herefore considers it to be absolutely necessary to establish the lower limit of TiO_2

content in mixtures, and thinks it desirable to cooperate regarding the marking of the different grades.

Mr. D'ans is of the opinion that the American norm is not sufficient for the German conditions. He thought that a mixture containing 15% TiO_2 should be the lowest limit to which one should add products with normal hiding power, best of all 85% zinc oxide. Any product that does not reach same hiding power as this mixture, it should not be allowed to call with the name of Titanium White. If this proposition is not acceptable, one could base oneself on the hiding power of a certain product.

Dr. Kühne cannot say anything definitely, as the hiding power of the Titanium Dioxide of the various firms is different. He will however take up the question with the Americans and Norwegians and declares himself willing to continue to exchange ideas with the Auer Gesellschaft regarding the question of the establishment of a norm.

Patents

Mr. Kühne declares that he would not like to negociate regarding patents as long as the Americans have in mind to act against Auer on account of patent-infringements.

Auer requests for an intervention to the effect that the Americans or Norwegians openly approach the Auer-Gesellschaft, indicating the nature of the infringement. Auer will be glad to discuss this question and place at their disposal the proofs, at any time. The calcination

patent was not infringed as the Auer Gesellschaft precipitates under pressure. Mr. Kühne declares himself willing to arrange a conversation regarding the patents between Dr. Jebsen and Auer-Gesellschaft. Auer declares that their patent regarding "weather-proof films" does not touch the Norwegian general titanium patents, and proposes to come to a separate understanding with the I.G. regarding this point.

The situation was that the Auer Co has the so-called Pionierpatent, but that the I.G. has the products necesesary for the working of the patent. A cooperation would therefore be the best thing for both parties. Thereupon Mr. Kühne expresses his interest in a cooperation in this field and will make further propositions.

Leverkusen, March 7th, 1928

Exhibit 516

May 15, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
26 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your very interesting letter No. 72 dated April 27th telling of your interview with Mr. Pisart, and am particularly interested in his comment with respect to the "palatial buildings" that have been erected at Leverkusen.

Had our engineers been doing the work I think that they would have put up a less expensive building for the Titangesellschaft, but as it is I think we shall have to accept the views of our German partners.

Your conversations with Mr. Pisart are serving a double purpose—developing the subject and gaining time. It is possible that conversations after my arrival in Europe next summer may develop a policy that will be to our mutual interest.

With kind regards,

Yours very truly,

Vice President

Exhibit 517

October 31, 1928

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France

Dear Dr. Jebsen:

I have your letters of October 15th and 19th, Nos. 141 and 145, with reference to the Societe Nord et Alpes and Thann & Mulhouse.

Should St. Gobain acquire these companies the Blumenfeld process will be in good hands in France.

I share your hope, however, that with the Leverkusen product on the market at the price of zinc oxide the outlook for competing enterprises will not be encouraging.

The Commercial Pigments Company of Baltimore who are exploiting the Blumenfeld patents in this country are very active, and we are giving serious attention to the question of patent infringement as well as the problem of meeting their product in competition.

We have not yet been favored with a call from Mr. Pisart, but he will no doubt come into see us before long.

Yours very truly,

Vice President

Exhibit 518

January 31, 1930

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have your letter of the 14th, No. 280, telling of your recent visit to Leverkusen, and am glad to learn that you found conditions so much improved. The experience of last year has been costly for all concerned, but we may reap some benefit from it in the future.

I note that the Auer Company has permanently abandoned their titanium venture. This will not only lessen the competition in titanium products, but may be discouraging to others who have been contemplating a similar venture.

I note also your decision with respect to Italy. I am still of the opinion that some sort of association with Montecatini may be desirable if it can be arranged. The development of the market for composite pigments in Italy together with such market as there is for pure oxide might give the Montecatini factory the outlet they desire. I have no definite suggestions as to the methods of approach, but would be glad to have you think it over.

In November of last year I received a letter from our former agent in Italy, Mr. A. Bianzino, who is now located at 26 Boulevard St. Michel, Paris. Our white lead business in Italy was abandoned many years ago, but I have maintained my personal contact with Mr. Bianzino.

At the time of his last letter he had been in communication with the owners of the Carteret-Devaux Process, and wrote to know if we were interested in establishing a

factory in Italy. At the time his letter was received you were on the ocean, and I wrote him that I would take the matter up with him later when I had had an opportunity to discuss the position with you. I do not remember, however, whether the subject was mentioned while you were in New York.

In any event, Mr. Bianzino's advice would be helpful in connection with the Italian business as he has been very closely in touch with the paint trade in that country having represented Pinchin, Johnson & Company in Italy after we gave up the sale of white lead.

Yours very truly,

Vice President

Exhibit 520

COPY

Translated from German. Minutes No. 2 *1930*

Minutes from conferences between Dr. Jebsen, Dr. Kühne, Dr. Brüggemann and Dr. Raspe during the period from February 5th to Febr. 8th 1930 in Leverkusen.

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1. Dr. Kühne reports on his conference with Donegani (Montecatini) who states that he now manufactures a high percentage Titanium White with good properties, using the improved Blumenfeld process. He manufactures and sells, contrary to his international engagements, about 1000 Kg. a day in Italy and 3000 Kg. a day in the other countries. In this way he obtains a low production price. It is not his intention to keep the prices high like Aussig and Thann, but he would rather reduce them in order to obtain a larger sale. Besides, he intends in the future to put on the market TiO_2 mixed with Blanc Fixe; with regard to Blanc Fixe, the highest he can afford would be RM.30. per 100 Kos.

   After this statement, Dr. Kühne considered it advisable not to enter into negotiations with regard to a sales agreement, but to wait until Titangesellschaft manufactures 100% TiO_2. He informed Donegani that we would now sell Titanium White in Italy. This seems most advantageous as, owing to our low Blanc Fixe prices, the composite pigments can be sold favourably in Italy, where the above mentioned high prices are ruling.

2. The Titangesellschaft declares itself willing not to take up the manufacture of titanium tetrachloride for the moment, but to take over, to the extent of sales possible, the TiCl4 falling in Ludwigshafen as a by product. It is agreed that the sale of this product be effected by the Titangesellschaft in such a manner that the Titangesellschaft takes over from I.C. Ludwigshafen the quantity which it can sell, at prices corresponding to the presumable production price of the Titangesellschaft.

Dr. Raspe states that he has arranged with Ludwigshafen that the price be fixed at RM 2.00 per Kg. He will, at the next conference, submit the preliminary calculation to Dr. Jebsen. The settlement will be made by Ludwigshafen debiting Titangesellschaft with the amounts in question. The latter settles the shipments with Frankfurt, at sales prices less 5% commission. If this does not cover the selling expenses, further negotiations are to be taken up.

3. During his visit, Dir. Reinhard, manager of the "Vereinigte Zinkweissfabriken", submitted two questions for discussion:

1.) Reduction of the publicity expenses. In this connection was pointed out that, owing to the fact that we have to introduce our product, we must for the moment have free hands as far as this point is concerned.

2.) It would be desirable to avoid as far as possible in the publicity comparisons with competitive products. Reinhard declares that in any case the "Zinkweiss-Syndikat" in its propoganda will act according to the latter point of view. Hes does not propose, how-

ever, to leave attacks unanswered, although the "Zinkweiss-Syndikat" would show great reserve also in this respect. Besides, he would try to enter into negotiations with the "Bleiweiss-Syndikat" in order that also this organisation moderate their propoganda. He trusts that they will also appreciate his point of view.

4. Dr. Jebsen points out that the Titangesellschaft would greatly appreciate that the propoganda of the various white pigments be maintained within certain limits. It is, though, difficult to draw strict lines in this connection. The preliminary principle would be, to abstain from direct comparisons with the competitive products in pamphlets and advertisements. Such argumentations should be used in technical journals or put before the public in lectures where the matter is subject to special objective study.

(sign.) G. Jebsen Kühne Brüggemann

Leverkusen, February 22, 1930.

(sign.) Raspe

With regard to Van Hoek's attacks, Reinhard believes that he also will be able to exert his influence in order that such prejudicial articles against titanium white be avoided in the future.

Exhibit 519

Letterhead of
TITAN CO., INC.

GJ/HS. Paris, March 7th, 1930.

Dr. G. Jebsen,
26 Rue de la Pépinière, Paris 8e

Evans McCarty Esq.,
Vice-President,
National Lead Company,
111 Broadway,
New York City, U. S. A.

Dear Mr. McCarty:

RE: PISART,
March 3rd.

I have seen Mr. Pisart last Thursday and this afternoon.

In the first interview he told me that he was now on a point at which he wanted to take a decision in the matter of Titanium. He could make an arrangement with Blumenfeld on very reasonable terms against a small royalty, and he would have the sole right to sell everywhere except United States, Italy, Czechoslovakia and in Germany from West until Berlin. He would have liked to make the arrangement with us, but France, Belgium and Holland was too small a territory—even South America we could not give him. He was therefore forced to arrange with Blumenfeld. He would, though before ask me to reconsider his proposal and include England and Scandinavia, as he would prefer to make it with us. On a remark from me last time, he thought perhaps we would be interested to have Blumenfeld with us to avoid competition, and this could perhaps

be done; on a question from me, he thought though, that this should be done after we had come together with Pisart, as Blumenfeld's interest then would be still cheaper to acquire. He mentioned that with Blumenfeld he could sell in Canada, South America and also make competition with us in Germany, and requested me to ask Mr. Holm, how the I. G. had felt before they had made an arrangement with him regarding Lithopone. He mentioned again, that his impression of you was, that you were willing to make him interested in the English market.

Later in the conversation he offered to let us have Norway. I thanked him for his offer, which presumably was done in consideration of myself being a Norwegian, and expressed my appreciation of the "beau geste" and my thought that it did not cost him much.

He talked at length of various matters trying to impress me by his importance and position. He suggested I should think the matter over, and asked me to give him a final proposal on Monday. He pointed out, that he had now to take a final decision. I told him I could not communicate with you, as you were away. I should think over what he had said and anyhow telephone him Monday morning.

This afternoon I told him I appreciated very much that he had informed me of his intention. We had though in New York decided, that we could not give him more than an interest in France, Holland and Belgium. With regard to South America the interest which I represented had engagements, but there may be possibilities that something could be arranged there.

If this basis did not interest him, I thought his consideration for us should not prevent him to make an arrangement with Blumenfeld. He seemed rather disappointed and

said, that South America represented too small a consumption. The consumption of Lithopone was perhaps 2 to 3000 tons. He would like very much to avoid any competition, and he was a man of peace and would prefer to make arrangements instead of fighting.

I made the remark, that perhaps it would be rather better for us if he acquired Blumenfeld instead of anybody else, because Blumenfeld then would come into strong hands, and I could trust that a wise price policy would be followed. If not, Blumenfeld might prove to be like a cat with seven lifes, going from one to another weak hand, spoiling prices. He thought Blumenfeld had not much chance to find anybody except himself to help him. He would be able to keep Montecatini within Italy, and indicated that he would have access to their works as well as Aussig's and the works in Baltimore, and he was wondering, if it should not be possible to bring all interests together. He thought you might be interested in this.

I told him I did not know what your views were upon the competition in U. S. A., but I remembered that when I was talking about the patents with your organisation, somebody had expressed a doubt on the advantage of a patent litigation, as the damages to be obtained were so small because the sales of the Commercial Pigment Company did not amount to much. He told me he had been informed that they were making 10 tons a day. I did not know how large their sales were.

I remarked, casually, that I had thought Blumenfeld may have a nuisance value. Auer had had such, but they had now finished—and what may happen to Blumenfeld?

He told me that Blumenfeld's group had given him as their production price Frs. 4.50, and they had sold at Frs.

7.— On my question he said, that the amortisation was not included in this. I told him I thought they would have given him a price in that neighbourhood.

He would renounce on Scandinavia, of which I expressed my appreciation, as it was anyhow nice if the Titan Co.—the original organisation—would be permitted to continue. The question was, however, England—and I could not see that his position in England was such, that it could justify an arrangement as suggested by him. I thought still, that we might be better off by making it with an English concern, if we want a partner for that country.

We had a three hours conversation also this time and when I left him, I expressed, that he must not feel himself bound by any consideration to us, and that both be free. I felt certain we would meet again re Titanium, and I would always be glad to talk the situation over.

On my question he told me he was going to U. S. A. on April 16th., and suggested to see you, and that I write you beforehand of our conversation.—I thought you would be glad to see him. He suggested I should go over at the same time. I told him, that I could not do so, but you would be in Europe in the second half of May, and in Paris probably in June. He would not be back in Europe before the middle of June. I thought you would probably remain here to the end of June.

March 6th

It seems from this, that he hesitates to go ahead with Blumenfeld alone and may start with an option on Blumenfeld's interest outside Aussig, Montecatini and Commercial Pigment Co. At his visit in New York he may then see, if he can bring about an arrangement with Commer-

cial Pigment Co., by which he hopes to justify his request for a part in England.

I have no idea whether you will like to have him mingle with the question of Commercial Pigment Co. and did not express myself further.

I presume a question of this kind will not be solved in New York during a visit of Mr. Pisart unless Commercial Pigment Co. are very disheartened, and then it can probably be brought about also without Pisart.

I have the impression, that Pisart did not feel certain about what Blumenfeld can offer him, and it may be the arrangements with Commercial Pigment Co. does not give Blumenfeld access to their experience. Pisart said he would have it, but whether this will be dependant upon a special arrangement or is included in the very small royalty Blumenfeld has asked, was not mentioned.

In his last interview he let fall his highhanded tactics, and I am surprised that he would give himself so much away as he did.

I am inclined to think, that when he sticks so much to 50% interest also in England, it is because this will give him practically the control over the developments of Titanium in Europe.

His influence over Mr. Holm of the I. G. is very great, and Holm has naturally his Lithopone factory at heart. I do not mean that he will kill Titanium, but the consideration of Lithopone will weigh heavily at all questions concerning the development of Titanium.

If Pisart takes up Blumenfeld without us, we will have competition, but also an acknowledgment by Pisart who then will be forced more than he may wish to be.

I mentioned to you that Pisart seemed to have developed beyond his natural basis and may find himself in an awk-

ward position in keeping his factories with 60.000 tons capacity of Lithopone running full. His home market France, Belgium and Holland consume about 34.000 tons (Pisart himself gave the following figure: France 20.000 tons and Belgium 7.000 tons).

He has not been able to prevent Kuhlmann coming in with 5.000 tons. Comines makes 2-3000 tons, Newport 3 to 5000 tons, if not more. This will leave to Pisart max. 24.000 tons.—

Union Chimique Belge have planned a large factory, but not started manufacturing yet. This means that Pisart will have to export 36.000 tons (of which 2.000 tons go to one customer in U. S. A.).

He may further find Orr—a harder task after Robinson has taken it over—and he may therefore find himself not only checked in further developments, but also having difficulties employing his factories, which are comparatively new in France.

If in addition to this, a development of Titanium White reduces the consumption of Lithopone—what will his attitude be towards Titanium? When Kuhlmann has entered the market so quickly, I presume this partly is due to the antagonism Pisart has created on the Continent amongst the larger grinders with his sales policy.

(It is a great pity that Leverkusen has not brought down the production prices yet. Instead, the latest news show still higher prices for the latter part of the year. They seem though now to work better and reckon to bring their repair and upkeep down considerably this half year and to a more normal level after that.)

Interview with Berr, Kuhlmann.

Tuesday the 4th. of March. I saw Mr. Berr in a short interview. Regarding the part of the profit they would find

reasonable that we should have for the licence he told me, that they had had two cases of similar nature.

In the one case it was 15%, in the other 20% of the profit after provision for depreciation (10% for installations and 5% for buildings), and 5% interest in invested capital; the remaining to be divided on the shares. I did not express any opinion upon this.

Later during the conversation he meant that we could make the agreement and then study together which place was the best for a factory—in this connection he let fall a remark, that the erection of the factory though must be subject that they find it a profitable business. I only answered, that neither we would put up a factory if it did not look to be good business. The remark may be natural from him, as I have not given him any figures as to the possible production cost—apart from quantities of the chief raw materials—but it looks to me, that this point must be agreed upon before we go together.

After talking over various points, Mr. Berr finished by requesting me to prepare a draft of an agreement, and expressed the confidence, that in working together we should be able to establish a sound enterprise. I told him I would communicate with you regarding the suggested part of the profit—and I also had the question of the liquidation of the present company.

It looks then, as if Kuhlmann is prepared to make an agreement with us—there may though still turn up questions of disagreement. Kuhlmann is a slow body in many ways. It has though the advantage of being considered a national enterprise, and has a great influence.

Lately there have been rumours of a merger with St. Gobain—and should this come off, it will have a similar,

if not a more important position in France than the I. C. I. in England and the I. G. in Germany.

Apart from the question of Pisart's request to participate in the English market, there is that difference between Kuhlmann and Pisart that Kuhlmann in France has a considerably better position and influence.

The original firm was founded a little more than hundred years ago, and with the mergers done after the war, it is one of the four big leading firms of the chemical and electro-chemical industries, which all work closely together.

Pisart's enterprise specializes in pigments and has a predominant position in this line. It is a one man company and has grown beyond its natural basis. It is a Dutch firm, which operates through a French limited company with some personal French friends of Pisart on the Board. Its position is very much dependent on Pisart personally.

If Pasart will push Titanium, we may probably see a quicker development in France, but presumably less well founded in the long run.

With kindest regards,

Yours very truly

G. JEBSEN.

Exhibit 521

Letterhead of
TITAN CO. A/S

GJ/AK

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 9th 1930.

Dear Mr. McCarty,

RE: "AUSSIG".

I beg to inform you that during my last stay in Leverkusen, Dr. Kühne told me that Dr. Mayer, managing director of "Aussig" had said to him that he would now again make an application to the patent authorities to the purpose of obtaining a statement that Aussig does not infringe our patents. In order to obtain a statement which could not be considered to be influenced by national interests in any way, he would make the application in Austria and not in Czechoslovakia or Germany.

This way of procedure is practically the same as Aussig did in Czechoslovakia last year when they afterwards withdrew the application. Such proceeding should presumably help to clear the question of Aussig's possible infringement and it will be cheaper than a litigation and presumably lead to less antagonism.

Dr. Kühne has many connections with Dr. Mayer and Dr. Mayer's idea should presumably lead to the establishment of a basis for an arrangement in case Aussig's manufacture is found to infringe our patents.

With kind regards,

Yours very truly,

G. JEBSEN

20224

Exhibit 522

COPY

ZURICH

Mr. Evans McCarty
National Lead Co.
111 Broadway, New York

September 16, 1930

Dear Mr. McCarty:

I write you this from here in the hope it will reach the boat tomorrow.

We had a 3 to 4 hour conference yesterday. Dr. Mayer from Aussig, Mr. Weber Andre and Dr. Kuhne and myself. Dr. Mayer and the gentlemen from I. G. had also other meetings here. Mr. Weber Andre is the head of the I. G.'s sales department for Inorganic materials and I am told of considerable influence in the I. G. He made a good impression.

Dr. Mayer who evidently loves to talk developed at length the advisability of coming together instead of fighting and thought if this principle was accepted the rest could certainly be settled. He did not leave these general lines of talk during the conference, but indicated afterward to Kuhne that the basis for a quota should be the present sales and thought I. G. m bH in their territory was selling products equivalent to 600 tons TiO_2 which he said Aussig also was doing—taking about 250 to 300 tons from Montecatini. Dr. Kuhne and Weber Andre consider him though a great bluffer.

I had pointed out during the conversation that as a basis for a quota could not be taken neither the present sales nor the capacity only, nor the patents but the whole position of the various parties.

Exhibit 522

Dr. Mayer did not favor the idea of Burton:—to have several sales organizations selling in the same market in the name of the various companies which seemed to fall in with the views of W. A. W. A. thought the group of Central Europe should have one and British Empire one and France one, which should cooperate, but not necessarily have an expensive central office as head. This last had not been suggested and seems superflous to me.

All agreed that an arrangement only concerning sales will not work at present.

Price conventions have proved not to work satisfactorily because the various sales organizations or rather the salesmen do not keep strictly to the lines drawn up. This experience has repeated itself in nearly all lines of industries.

I presented for discussion your suggestion of a pooling of the patents. It is not quite clear to me what is meant by this. We thought, however, that the idea was mutual cooperation and possible joint action to keep third parties out. This it was found could not work as it involves:

1. That the Blumenfeld group and we refrain from fighting each others patents, which cannot be done without giving each other licenses and that cannot be done without the markets and all the rest.

2. If we will enter into a fight against third party it will be necessary to deliberate as to—on which ground and the best manner of action.

This will generally lead to experiments to clear various questions and provide evidence and this means again a disclosure of experience which nobody will like to give the other without arrangements for exchange of experience with regard to manufacture.

Dr. Mayer thought the general line for proceeding should be to agree on quotas, and then arrangements could be made as to manufacture.

In other words, he appeared quite willing to take his quota for a certain time from I. G. in if he can have it on favorable conditions. He is not well placed for a manufacture in Czecho-Slovakia except for the home market. This position comes to: by a threat of erecting a plant in Germany he wants a quota and afterwards take his material from Leverkusen and make a profit in that way.

He is licensed—he said—for Germany, Czecho-Slovakia, Austria, Roumania, Jugoslavia, Russia and Poland (together with Blumenfeld).

He is under obligation to Kunheim, Germany to erect a plant for them. Kunheim is, as I have told you, under a certain influence of I. G. but as far as I understand not entirely. Dr. Kuhne will make nearer investigations as to the relations between Kunheim and Aussig.

Dr. Kuhne told me that the latest statistics showed that nearly one-third of I. G. in sales at present go to Czechoslovakia. They have difficulties with the tariff now, and Dr. Mayer is in the position at any time to have it increased.

Dr. Kuhne and W. A. seem willing to let Mayer have Czechoslovakia alone but no more. Dr. Kuhne is not much inclined to make an arrangement at present and so is also the opinion of W. A.

I asked Dr. Kuhne what is the production of Aussig in lithopone in order to see if this can give an idea of the firms possibilities. Dr. Kuhne thought it was 3000 to 4000 tons. Dr. Kuhne and Holm have several times in the last two years expressed as you know their desire or as they say the necessity of I. G. m b H to have South America as

market and Dr. Kuhne pointed out now again that if they gave up a part to Aussig they must get more market otherwise. Dr. Kuhne said they had very good organizations in South America. Proof of this he said had come to him on several occasions. Personally, I have been inclined to let I. G. work South America although it does not appeal to me at first moment that they take it up in this connection. We ought to see first how matters work out.

I still believe that ultimately Leverkusen will produce cheaper than U. S. A. It is doing so now compared with St. Louis last year.

T. P. Co. has not made use of its option so Titaninc is so far free.

Has titanium Pigment Company any intention to start sales in South America or would they help the matter along by refraining from S. A.? I did not enter into any discussion with Kuhne about this matter. I have though last winter discussed the possibilities of I. G'd sales organization in South America which I personally am inclined to believe would do better than we con do ourselves through some agents. Dr. Kuhne told me they were doing far better than Pisart with lithopone there. Pisart had not been able to do much there to P's regret.

Discussing yesterday evening with Kuhne and W. A. the possibilities of the B. group I found it advisable to tell them a little of our plans for England and France with I. S. C. and Kuhlmann.

Both immediately said—but what about our large factory in Leverkusen. I tried to tranquilize their mind somewhat as to the first years to come and that in the long run it ought to be to the advantage also for Leverkusen. This last I think they somewhat agreed to without expressing so.

Re Blumenfeld and Mayer—Mr. W. A. expressed some

dislike to let two men of their character come into our group —both being "unruhig" (apt to disturb—unruly).

Dr. Kuhne this morning did not think that Aussig can do anything in Germany, whereas his position in Czechoslovakia, Austria, Hungary and Yugoslovia is good—Aussig being the most important chemical concern in Austria before the war. (The I. G. of Austria—although a comparatively small concern.)

Yesterday W. A. thought that Dr. Mayer would get the money from the banks for a factory—provided it is to be erected in Czechoslovakia.

All in all—The B. group apart from Montecatini is only regarded as a possible competitor in Europe and the question was raised if it is possible to estrange M from B. Kuhne said that Donegahni once had said to him that he would not hesitate to ~~overstep~~ this contract with B. I do not know in ~~which~~ connection this was said—but the expression conforms with his reputation. From this he should not exactly be a desirable member of our group either—I presume though he would be more careful with us.

Dr. Kuhne's mind re the factory in Leverkusen was this time more quiet.

He thought we will be able to make Standard T for less than 30 Mk per 100 kg. On my question—he expressed much confidence in the experiments of Mr. Ravenstad and suggested we should order the evaporating apparatus for installation in Leverkusen. We had some talk about Dr. Raspe and it seems that he sees now his character—his advantages and drawbacks. He praised his interest and energy and criticized his eagerness to do everything himself and stubborness in not taking advice. He told me he had taken him because he considered him the best of those he had thought of.

Exhibit 522

Dr. Raspe had been much down because of some criticism from me the other day and Dr. Kuhne asked me to treat him less hard. It concerned the control of the pigments and fault of uniformity in deliveries. I explained the necessity of having this arranged satisfactorily. Recently we have had three or four cases which ought not to have occurred—amongst which was one delivery of Standard T with $CaSO_4$ which you will remember I last summer objected to. (A quality for our markets.) By some fault this has been sent to Boston Blacking with immediate result of complaint.

I reminded Dr. Kuhne of his own as well as my experience that Raspe does not take advice unless it is strongly impressed upon him to which Dr. Kuhne agreed.

I am very much looking forward to the result of your interviews with Mr. W. S. Robinson.

With kindest regards

Yours very truly,

G. JEBSEN

P. S. It was agreed to carry on the negotiations with Dr. Mayer and I suggested that Dr. Kuhne and Mayer talk about it when they meet in other connections.

Dr. Kuhne agreed with me not to disrupt the negotiations but keep them alive pending further developments. He also wanted to know more of his own strength as he says.

It is encouraging that Mr. Ticknor consider the European side will represent no difficulties, if he with that means the B group. Matters are, however, in this as in most cases, far more complicated on this side than in U. S. A.

Exhibit 523

October 21, 1930.

Dr. G. Jebsen
Societe Industrielle du Titane
24 Rue de la Pepiniere, Paris, France

Dear Dr. Jebsen:

I have yours of October 10, No. 345, and note that the sales of Montecatini's TiO_2 continue to grow at the expense of our Extra T.

This, to my mind, simply emphasizes the importance of our getting into the manufacture of pure titanium oxide at some point at as early a date as possible.

I am sorry that there are no new developments in connection with Mr. Ravnestad's process. St. Louis is again manufacturing pure TiO_2 by Mr. Washburn's process, and we hope to have some definite data shortly.

I have also your letter of October 8th, No. 341, but there are no new developments in connection with any of the matters referred to.

Yours very truly,

Vice President

Exhibit 524

Letterhead of

TITAN CO. A/S

Paris, October 28th, 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. McCarty,

Enclosed I send you a memo from Dr. Kühne, regarding a conference he has had with Dr. Mayer of Aussig, on October 15th.

I believe there is an error in the statement that Dr. Mayer would content himself with 50% of his present sale, and that it means that he would be content to produce this part himself and take the rest from Titangesellschaft at selfcost price.

As Dr. Kühne has been away travelling most of the time since then. I have not been able over the telephone to ascertain whether there is an error or not.

Dr. Raspe told me that he had seen him during a week-end. He had not talked about this point, but Dr. Kühne had asked him to inform me that Dr. Mayer's statement as to his process, etc., should be considered with caution.

With kindest regards,

Yours very truly,

G. Jebsen

Exhibit 524

Translated from German.

CONFIDENTIAL

I. G. Farbenindustrie
Aktiengesellschaft
Leverkusen

Conference with Generaldirektor Mayer, Aussig
October 15th, 1930.

Mr. Mayer again inquires as to an agreement with regard to Titanium White. He had now a new process which, by three simple operations, gives a 100% TiO_2 with an unheard of high hiding power. He will send us samples. However, before undertaking anything new in this field, he would like to have examined once more the possibility of a cooperation. He is of the opinion that cooperation of the titanium white manufacturers would further very much the development of titanium white and, on the other hand, avoid unnecessary price-fights. He states that he is in a position to manufacture 2-3 tons 100% TiO_2 per day in his experimental plant. His sale had amounted to about 600 tons 100% TiO_2 per annum—a great part of which he had ordered from Montecatini. In case of a quota agreement with us, he would be willing to content himself with 50% of this, i.e. 300 tons a year for the territory assigned to him, i.e. Germany and the previously Austrian territories. He let shine through, that he might also be satisfied with 40% = 240 t. p.a. I have promised him to discuss the question with Dr Jebsen and the Gentlemen of the Gutleutstrasse, and to advise him as soon as possible. He is going to meet Blumenfeld in about a fortnight and would like to have an answer before that time.

(signed) DR. KÜHNE

1675

Exhibit 525

November 7, 1930.

Dr. G. Jebsen:
Societe Industrielle du Titane
24 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I beg to acknowledge receipt of your letter of October 28th, No. 353, enclosing memorandum from Dr. Kuhne respecting a recent conference with Dr. Mayer of Aussig.

Our negotiations with the Commercial Pigments Company continue, but we do not seem to make much progress.

Yours very truly,

Vice President

Exhibit 526

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, November 14th 1930.

CONFIDENTIAL.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

I returned from Leverkusen last Sunday. Matters there are progressing fairly.

Referring to my letter of October 28th No. 353 with Dr. Kühne's memo re a conference he had with Dr. Mayer, I beg to mention that this memo is to be understood in the following way:

Mr. Mayer will be satisfied with a quota of 300 or 240 tons TiO_2 a year at present in his territory giving Titangesellschaft a quota corresponding to their present sales in their territory, and these two figures to form the basis for the quotas in future.

Dr. Kühne had mentioned a figure of 900 tons of TiO_2 which, however, is on the high side.

Dr. Mayer had told Dr. Kühne that towards Blumenfeld he had to stick to 600 tons of TiO_2, but, in an arrangement with us, was willing to go down to the above mentioned figure. This seems somewhat unclear, especially as Dr. Mayer in London already mentioned the figure of 240 tons, which I told Dr. Kühne.

Exhibit 526

Dr. Kühne was still uncertain as to the advisability of making an arrangement with Aussig—not knowing our own strength—and wondered whether it would not be better for us to have a try with our TiO_2 when this is produced. We agreed that he continues his conversations with Dr. Mayer to the purpose of a possible conclusion of an agreement if next year matters will justify such a step.

The information from Dr. Mayer regarding his wonderful new process, Dr. Kühne thought, should be received with caution.

I informed Dr. Kühne about the situation in U.S.A. in accordance with your letters to me.

Mr. Gilbert told me that he has had a conversation with Blumenfeld, who had let him understand that an arrangement between his and our group would be made within the end of this year.

I enclose copy of a confidential information from the I.G. Farbenindustrie concerning Montecatini's titanium enterprise, from which it appears that the "Società Anonima Italiana "Titanium" has increased its share capital to Lire 8, I millions and further issued 6% bonds for 8 million Lire.

This may represent an intention of extending the manufacture, but it seems more likely that it only means that Montecatini has now finally fixed the financial form of their investment.

With kind regards,

Yours very truly

G. JEBSEN

Exhibit 527

Letterhead of
TITAN CO. A/S.

GJ/AK

Paris, December 5th 1930.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

My best thanks for your cable:

" MERGER WITH COMMERCIAL PIGMENTS
" NOW SEEM PROBABLE IF EUROPEAN INTER-
" ESTS CAN BE ADJUSTED STOP DO YOU
" THINK EUROPEAN ARRANGEMENTS NOW
" PRACTICABLE"

of November 21st, which was forwarded to me and received the 22nd. I cabled you from Cologne, December 2nd, as follows:

" CONSIDER WE OUGHT TRY MAKE ARRANGE-
" MENT EUROPE BLUMENFELD STOP KUHNE
" ALSO AGREES THIS STOP BURTON EX-
" PECTED HEAR FROM TICKNOR SHORTLY
" PLEASE CABLE WHEN YOU CONSIDER I
" SHALL START AGAIN WITH BURTON".

I hope the delay of my answer did not cause you serious inconvenience. I though it was best to have a conference with Dr. Kühne first, in view of Dr. Kühne's attitude mentioned in my letter of November 14th.

Exhibit 527

I had several talks with Dr. Kühne in Leverkusen, after which he approved of my above cable to you.

The chief difficulty is to digest Montecatini's 1500 tons. Dr. Kühne had presumed that none of these should go to Titangesellschaft's territory, whereas I thought it should be absorbed by the various countries in the same ratio as at present. In view of the I. G.'s strong position in Germany and the tariff, they are, though, of the opinion that they can reduce Montecatini's part of the market quite considerably and we may have to make some concession there.

We had also a talk with Dir. Holm about these matters and he was decidedly against an arrangement with Montecatini and Blumenfeld at present. He felt that the I.G. could take 90% of the market in Germany and, as his friend, Mr. Harold Wilson, representing Montecatini in England, was willing to drop that agency in favour of us, he thought also it would be easy to put Montecatini out of England. Dr. Kühne and I thought Montecatini would not so easily accept such a treatment. According to Mr. Thompson, Montecatini is also selling through Taylor Bros. and Cox, which he considers a better firm than Harold Wilson.

Dr. Kühne thinks that Montecatini and St. Gobain are the only companies in Europe which can produce sulphuric acid as cheap as the I.G. (because of their cheap sources for Sulphur and Barytes), and that Montecatini, on the whole, has a similar position as the I.G., from a general point of view, as to manufacturing facilities.

Mr. Holm's rather strong attitude became a little weaker as arguments developed, but he still sticked to his opinion.

A meeting has been arranged in Frankfort on the 16th of Dec., regarding the sales organisation of the Titange-

sellschaft and the question of the remuneration to the I.G. As there will be a meeting between the I.G. and Mr. Mayer of Aussig, the 17th in Frankfurt, it is probable that the question of titaniumf also will be discussed. As Dr. Mayer, since his last conversation with Dr. Kühne, has not yet sent his sample of pure TiO2, Dr. Kühne has only written to him in general terms and asked him for a sample.

Dr. Kühne has taken up the question of South-America again, where he wants the Titangesellschaft to have the right to sell. Referring to previous conversations with you and correspondence, I shall appreciate to have your opinion whether it would be agreeable to you to give them this, so far as Titan Co Inc's rights go, under the agreement of 1920 with Titanium Pigment Company. Such an extension of Titangesellschaft's market may partly be considered as a compensation for any sacrifice the I.G. may feel or argue that they are doing, in connection with an arrangement with Blumenfeld and Montecatini.

As to the possibility of coming to a successful arrangement, you will appreciate that it is difficult to have an opinion. So many questions are involved and still more may crop up during the negotiations.

I have discussed the matter a little with Mr. Thompson, in view of the English market. He points out—and also Mr. Holm,—that as long as we have not been able to offer TiO2 on the market, it is difficult to form an opinion of Montecatini's strength and the quantity they sell. He has not much confidence in the figure of 1500 tons mentioned by Mr. Burton as representing Montecatini's sales at present.— It is a matter of an estimate of the future possibilities of the market; if they are great, it will possibly, in the long run, pay us, to have Montecatini limited to 1500

tons, and Mr. Thompson seemed to agree to this, but he thought it might be awkward and give lean results for us in the first years.

It is a question whether Montecatini really has sold 1500 tons hitherto, in addition to the sales of Thann & Mulhouse and Aussig's production, and whether these sales actually have gone to consumers or to the pigment is in the hands of dealers. Montecatini's products are dealt with by several people in the various countries, so it is difficult to get a clear picture. These matters we will only be able to get a grasp of, when we resume our conversations with Mr. Burton and Blumenfeld and presumably Montecatini.

The formation of the new companies in France and England will also involve expenses and form new objects for taxation, which is rather unfortunate. In the matter of taxation I think our present organisation is as well placed as it can be. A point in our favour in the negotiations to come, and which, I presume, tempts Dr. Mayer as well as Blumenfeld, is our advantage in having a large factory already erected and ready to produce large quantities, so that no further capital investment for manufacture is necessary for some time to come. Against this stands our intention to put up a factory in England together with Mr. Robinson. An arrangement with Blumenfeld, as well as with Robinson, may therefore lead to less profit on our investments in the first years to come, than we otherwise would have had, and the advantage only to be expected somewhat later. On the other hand, we may see the German factory being occupied more and giving us a lower production price than otherwise.

Before I left London, Monday 23rd, I 'phoned Mr. Burton who had had a telephone conversation with Mr. Tick-

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nor, Friday the week before, and understood that Mr. Ticknor expected to be able within short to let him know that you had come to an agreement on your side. Mr. Burton reckoned therefore that he will hear from Mr. Ticknor within a fortnight.

You will know from previous correspondence, that I have been in touch with Mr. Burton a few times since you have left, but nothing further has been done, pending developments in U.S.A.

I await your further news, before resuming the negotiations on this side with Burton and Blumenfeld.

As to the negotiations with Dr. Mayer of Aussig, Dr. Kühne's and my idea is a division of quotas of 80% to Titangesellschaft and 20% to Aussig and Blumenfeld. (I understand that Aussig has only a part of Germany and Russia, and Blumenfeld has another part.) As Dr. Mayer of Aussig has declared himself willing to limit for the time being his production to 240 tons and take the rest of his quota from Dr. Kühne, we thought to bargain about the price at which this should be delivered and I also thought that Titan Co. Inc. should sell to the French and the German company on similar conditions. (and not selfcost price).

Drawing definite lines in these matters before having come into a closer touch with the other parties, may not be very practical. I mention the above though, in order to give a picture of my thoughts, and will appreciate your advice.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 528

Letterhead of

TITAN CO. A/S

Paris, January 16th 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

As I have been taken by a grippe which has not permitted me to go regularly to the office, I have not been able to answer your letters of December 15th, 16th, 24th and January 2nd. I will not be able to deal at length with the matter today, but, presuming that you are expecting to hear from me, I beg to send you just a few words.

Your letter with regard to your discussions with Mr. Robinson is very interesting and the conclusions you have come to, seem to be quite agreeable as a basis for an arrangement.

You have approached the matter chiefly from a commercial point of view, whereas our arrangement of 1920 and the I.G. arrangement took the technical position as the major interest, which was logical, as the markets dealt with in both cases were little developed.

Deferring a consideration of our existing business in composite pigment and confining ourselves to the TiO_2 simplifies the question of compensation for existing business and I am glad you have obtained Mr. Robinson's agreement to this.

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From the point of view of the technical organization work, it leaves open the question of how to deal with other titanium products which possibly may develop. Although this is of secondary interest at present, some lines will have to be drawn also in this matter.

As it will be well if all parties are interested in this work, I will suggest that the agreement with the I.S.C. covers an exchange of all the future developments in the licensed field, and the Titanic's is only reserved the sale of the composite pigments. I am doing this with some hesitation, though, as the technical support in the development of other chemical products, as for instance titanium compounds for dye industries and tanning purposes, probably can be expected more from the I.G. than anybody else, and they may find such developments partly against their own interests when they cannot get a larger market than they have at present. Counterbalancing this consideration, stands again the possible British tariff and the other reasons we considered this spring in favour of another European factory—so that presumably the best way to deal with the matter is to deal with it as above, which is also the simplest. In view of my conversations with Mr. Robinson, I presume he is entertaining the same idea, as long as it has not been discussed between you.

I presume you consider that the British Titan Products Co. until it manufactures TiO_2 of its own, will buy from Titan Co. Inc. at English market price less for instance 10% or another reasonable basis.

Re Blumenfeld.

For your information I beg to mention that I had a conversation with Dir. Weber-Andreae, Dr. Kühne* and Dir.

* Only party present. (Written in margin)

Exhibit 528

Holm, during my last visit in Frankfurt just before Christmas. Dr. Mayer from Aussig, who had been expected there for another meeting, did not come as that meeting was postponed,—so I had no opportunity to see him.

I had quite some talk with the gentlemen of the I.G. regarding an arrangement with the Blumenfeld interests, of which I shall inform you more fully later.

After a considerable discussion of the whole matter, in which they also asked for certain information as to our arrangements in France and England, Dir. Weber-Andreae concluded that the I.G. was willing to consider an arrangement with Plumenfeld on the basis of certain principles which he outlined. I think, though, that these principles were drawn rather strictly with a view of having something to give later on.

Dir. Weber-Andreae suggested that the I.G. should make a draft of the principal lines of the arrangement, as they looked upon it, which I thought would be very useful. This I have not received yet.

I should like to have I.G. a little further in this matter before I attempt to draw any definite lines with Mr. Burton. As you now, there have been several talks between Dr. Kühne and Dr. Mayer and I believe it would facilitate matters later, if I have got something from the I.G. which represents the joint opinion of Dir. Weber-Andreae and Dr. Kühne at the present stage of development.

With regard to Mr. Burton, you will know from my previous letters, that he has been awaiting news from Mr. Chase before going on with the matter here. I understand from your correspondence that he probably has received this now or will receive such in the near future.

I have heard nothing from Mr. L. B. Robinson since his return and would not like to disturb him before he has

been able to clear his desk and can give some time to the British Titan Products Co.

I will presumably go to Leverkusen next week, as we are expecting the two 30 tons batches through the calciner as the end of this month, and thought then to go to London to get into touch with Mr. Burton and Mr. Robinson.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 529

Letterhead of

TITAN CO. A/S

Paris March 2nd 1931.

Evans McCarty Esq.
Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your letter of February 18th.

The letter-head of the Gundersen Clinic was some surprise. I was sorry to see that you have found it necessary to give up your trip to California; if it, however, can bring you at last to give yourself the necessary time for a thorough treatment and rest, it may be greeted as good news.

A week ago Dir. Mayer of Aussig, Dir. Weber-Andreae, Dr. Holm and I met with Dr. Kühne in Davos for two days conference. We did not come to a final result, but the situation was cleared quite considerably. The negotiations went off in a very good spirit and the ideas were considerably approached. Tentative preliminary lines were worked out and Dir. Mayer will talk the matter over with his people and meet Dr. Kühne in Frankfurt or Leverkusen about 20th March.

The basis is a full exchange of licenses within the "licensed field" and participations in the market varying somewhat. Aussig to sell 450 tons TiO_2 and T.G.m.b.H. the rest until 80% of the market, that is 1800 tons TiO_2;

then Aussig to have a larger part of the further increase until a proportion which was not agreed upon; Dr. Mayer mentioned 40% for Aussig, but not agreed to by T.G.m.b.H. The idea is that T.G.m.b.H. shall have the capacity of its factory (that is the 50% which it disposes of for its own territory) fully occupied before Aussig can claim more. The capacity of the Leverkusen work was given to 4500 tons TiO_2 with buildings for the double of this.

Mr. Burton has telephoned about a fortnight ago, that Mr. Tickner will arrive the 6th to London and come to Paris the 20th or 23rd, if this was agreeable. They thought it best to see Donegani and Blumenfeld before meeting me—to which I agreed. I go, however, to-morrow to London for a week's stay, to see Mr. Robinson and try to work out the arrangement with him, and will then inform Mr. Burton of my stay there. Dr. Mayer of Aussig may also come to Paris about 23rd of March, and Dr. Kühne and Dir. Weber-Andreae some time in the end of March.

I have had some talks with Dr. Kühne, Dr. Brüggemann and Dir. W.-A. re the question of "interest to be included in the selfcost price", and given them a bit of my thoughts, which, I believe from your letter of 21st January, run along the lines of yours. Dir. W.-A. has dropped the proposal with the remark: "Give us the remunerfation to Frankfurt and we will drop the other question". I told him that I had not yet made up my mind as to a change in the remuneration for the sales. Through my talks with Dr. Kühne and Dr. Brüggemann, it appeared that Dir. W.-A. had taken it up without previous conference with any of them—probably inspired by Mr. Holm.—W.-A. is a very different type from Mr. Holm—

more alert, as you say, and of more international experience. He is considered in the I.G. to have a weakness for all English speaking.

Hoping that your stay in the clinic will be beneficiary to you and therewith to all of us, and with kindest regards to Mrs. McCarty and yourself, in which Mrs. Jebsen joins me,

Yours very truly,

G. JEBSEN

Exhibit 530

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, April 10th, 1931.

Evans McCarty Esq
Vice President
National Lead Company
111 Broadway
New York City. U. S. A.

Dear Mr. McCarty,

Re arrangements with the Blumenfeld group.

Mr. Ticknor and Mr. Chase changed their plans and went first to London—arriving in Paris March 20th. Visiting London twice during their stay there, I made their acquaintance and had a little preliminary talk with them before their arrival in Paris. Here they remained from the 20th of March to the first days of April. Dr. Mayer of Aussig was here several days during that time and Dr. Kuhne and Dir. Holm came over for one day. Various conversations took place, partly together and partly in separate groups.

As some confusions and misunderstandings occurred with Blumenfeld, I made the enclosed memorandum before Mr. Ticknor left, stating the outlines for arrangements which it has been agreed by all parties to take as a basis to work upon.

I have of course made the reservation that I have had no opportunity to discuss this with you or any other mem-

bers of the Board of the Titan Company Inc., and therefore would not commit myself.

The memorandum has been accepted by Mr. Ticknor, Mr. Chase, Mr. Burton and Mr. Blumenfeld (the latter with a general reservation as to details). The other above named gentlemen had left at that time. The memo represents though what has been agreed upon between Aussig and the I.G. gentlemen and myself, as regards T.G.m.b.H.'s and Aussig's territory and its relation to Montecatini and the other parties; one question is though still open there, as Aussig has an interest in Denmark, which I have requested that they should withdraw from; Dr. Mayer has not given any definite answer, but simply mentioned that we may find an arrangement for that.

You will note that Montecatini has not been represented and the outlines with regard to the arrangement with them represents what the other parties have agreed to as a basis for a possible arrangement with Montecatini. Mr. Ticknor, Mr. Chase and Mr. Burton have had a talk with Mr. Donegani beforehand, from which they presume that an arrangement can be made somewhat on these lines. Mr. Donegani will be here in Paris Friday the 17th. Mr. Burton will come over then, and Mr. Blumenfeld, he and I will take up the matter with him.

Re the position of Blumenfeld's group.

In addition to the statement mentioned in the memo, of Montecatini's sales, Blumenfeld stated that Thann & Mulhouse had sold and delivered in 1930 in France 600 tons of TiO_2 (incl. the 135 tons from Montecatini). Dr. Mayer stated that Aussig had sold and delivered about 540 t. (incl. the 196 tons from Montecatini).

Exhibit 530

The Blumenfeld group has the following factories:

1°—Montecatini's factory in Italy, of 1500 t. TiO_2 capacity. It is said to be well equipped. Dr. Kühne thinks that Montecatini has cheap acid and manufacturing conditions, generally speaking, as good as I. G.'s so far as TiO_2 is concerned. Dir. Holm thinks no. Anyhow, Montecatini represents a serious competitor.

2°—Aussig has a small factory chiefly for experimental purposes, of 450 t. TiO_2 capacity (according to Dr. Mayer). The Czechoslovakian home market is protected to the degree of practical prohibition of import if necessary. Aussig's position before the war in Austria-Hungary was similar to the I. G.'s and it is still well organised and placed in the states which formed the old monarchy. It has also thorough knowledge and good connections in Germany if they wish to combine with somebody or the erection of a factory there.

3°—Thann & Mulhouse is said to have a factory of a capacity of 5-6000 tons, badly placed—cheap acid. Thann & Mulhouse is an old concern with factory—or factories—well written down. The manufacture of TiO_2 is probably not cheap there, but with the tariff it may hold its own against competition from outside with duty to pay.

All three concerns have been taking the advantage of us developing the market. They have not followed a definite sales-policy to the purpose of educating and developing the market on certain lines, but have sold TiO_2 to consumers where this was the easiest, and also to dealers, letting these mix the TiO_2 with extenders as they think fit, in order to compete with our composite pigments, so that all sorts of mixtures have been brought on the market.

Exhibit 530 :

Leaving the patent situation out of consideration, the Blumenfeld group is to be seriously considered in view of the existing factory in Italy and the possibility of connecting up with somebody in Germany or France, Holland, Belgium and Great Britain.

T.G.m.b.H.'s deliveries in 1930 amount to 720 tons of TiO_2 and Titan Company Inc.'s to 1178 tons of TiO_2. As however, this has been sold in the form of composite pigments, Standard A mixtures and pastes, the turnover per ton of TiO_2 is considerably more than that of the Blumenfeld group and our commercial position is considerably stronger (admitted by Blumenfeld). It is considered desirable as far as possible to concentrate all production in as few as possible places in order to obtain a cheap production. We have the strength of having a factory already built and running, which can supply considerably more than the present sales (which of course also to some extent is a weakness).

Re arrangement for T.G.m.b.H.'s territory.

Dr. Mayer has the intention to maintain a small production (he mentioned 450 tons). He thinks it is not advisable to extend the factory further before Leverkusen is fully occupied. His factory is well placed for deliveries in Czechoslovakia and some of the neighbouring states. Apart from what he must take from Montecatini, he will therefore, to his own advantage, presumably take from Leverkusen at prices to be agreed upon and which we expect will leave us a reasonable manufacturing profit. His quota is such that it probably will not give him an outlet sufficient for another factory in Germany, for a long time to come. It seems therefore that the arrangement made for

Exhibit 530

T.G.m.b.H.'s territory is satisfactory. The exchange of Italy with Scandinavia, Finland and the Baltic States, seems to me equitable.

Re Belgium and Holland.

The 90 tons from Montecatini will be felt rather heavily in these small markets. The prices there are though not very interesting, as all pigments are cheap in these countries.

France.

The 135 tons from Montecatini represent also here quite a quantity for the first years to come.

I wanted 70% of the shares in the French Company, not so much of economical reasons as in order to be able to have a deciding influence in all questions. The French law prescribes 2/3 majority in the general meetings for certain decisions to be taken, and Blumenfeld can therefore with his 40% block us. I mentioned this to Blumenfeld. He would, though, not give up his 40%, but offered that he would accept any obligation with regard to voting, on the condition that this was mutual.

This matter seems to me especially important in the question of increase of the capital in case we will erect a factory. However, a reciprocal obligation on our part to increase the capital if Blumenfeld should wish so, shall probably not represent any risk of importance.

I should appreciate if you will think over this question of voting right and its consequences, and send you separately a copy of the "Code du Commerce" which contains the stipulations of the law in this respect.

In view of France being Blumenfeld's headquarters, it is understandable that he wishes not to part with more of his interest in France.

Blumenfeld has not expressed any opinion as to whether he will continue his manufacture in Thann. It will probably depend upon the prices we can make for deliveries from Leverkusen, and as it may not be disadvantageous to have some manufacture done in France, I thought it best to leave the question open and let time and experience develop the course to be followed.

The period in which Thann & Mulhouse, after having stopped its manufacture, shall refrain from any activities in the Licensed Field, has not been discussed.

As to Stè Industrielle du Titane, I have not made up my mind as to what course it may be advisable to follow. We have 2/3 of the shares and are so far able to take any decisions necessary as long as we deal with the minority in a reasonable way. I have not thought it opportune to discuss any lines to be followed with a French lawyer, before the possible lines for an arrangement with Blumenfeld are more clear.

British Empire.

You will note that I have accepted as a basis for the holding of shares, the suggestion Mr. Chase had with him.

The amount of 430 tons which Montecatini should be allowed to sell, is also here a rather heavy burden. Asking Mr. L. B. Robinson of his view on this question, he answered that it presumably can not be prevented anyhow, so it was better to accept it. (I understand from Mr. Burton that Mr. Donegani has mentioned a figure of 500 tons.)

With regard to the composite pigments, your conversation with Mr. L. B. Robinson foresaw that they should be left to the Titan Company Inc., and the question of

British Titan Products Co. being allowed to take up such manufacture and sale, should be deferred. I asked Mr. L. B. Robinson if he had discussed with you this matter also from the point of view of an arrangement with Commercial Solvents Corporation, to which he answered that he had the impression that your idea was to keep them entirely out of composite pigments and that a possible manufacture of these should be a matter between I. S. C. and ourselves. On the remark from me that this might be difficult, as presumably the natural way to deal with the manufacture of composite pigments in England, would be in connection with the factory making TiO2, he thought that there might well be an arrangement by which still the composite pigments were dealt with for his and our account. Mr. Robinson did not say that this line was specifically laid out by you, but only that his impression was such.

Speaking with Mr. Ticknor in London (Mr. Chase was absent) about the position in England, it appeared that he did not know about the composite pigment being excluded. He seemed surprised at this, but added that the talks had been between Mr. Chase and you. Referring to this question here in Paris, he said he did not mind so much, as, according to Mr. Burton, a tariff would soon be apposed in England and then of course the English company would have to take up the composite pigment. Of the same reason, he thought that the quantity allowed to Montecatini would not prove to be so heavy a burden.

I told him that the matter of composite pigments had been discussed between Mr. L. B. Robinson and you in New York, as L. B. and I had not been able to find a satisfactory solution of the question, and that it had been agreed upon to defer the question and leave it to the Titan Co. Inc.

to import. I felt therefore that it would not be right of me to step in and discuss this matter, as I did not know what was in your mind.

During the negotiations here in Paris with Blumenfeld, it appeared that he was rather dissatisfied with the Commercial Solvents Corporation's intervention in the English position. Blumenfeld stated to me that Commercial Solvents could not make any arrangement for England without his authorisation, and there seemed to be certain questions between Blumenfeld and Commercial Solvents in this matter, which were and are probably yet not quite cleared up. Vis a vis Blumenfeld I took the same attitude as vis a vis Mr. Ticknor. This resulted in Blumenfeld telling Mr. Ticknor that I had claimed to have the composite pigment reserved for all future exclusively for Titan Co. Inc., and this was a condition which Blumenfeld would never agree upon. The matter was cleared up in our last conversation where all three parties were together.

I had mentioned that I presumably would have to go to New York this spring or early summer, and Mr. Ticknor suggested to Mr. Blumenfeld to go over at the same time, to which Mr. Blumenfeld agreed, so that a definite arrangement could be agreed upon in this matter.

I do not know what you have had in mind in this respect, but considered it rather well that the question is postponed until then.

In the meantime we will know what can be done with Mr. Donegani, and presumably have a full picture of the situation before we have to deal finally with the English position.

Exhibit 530

Re South America.

The arrangement outlined has been done in consideration of I. G.'s intense desire and repeated request to give T.G.m.b.H. the right to sell in this market.

I have mentioned this, I believe, twice in letters to you, but have had no comments from you, presumably of the reason that it might have been well to see the matter develop a little more before any decision was taken.

The I. G.'s ground for their request is their desire of having a larger territory for the factory, and that they are considered to have a very good sales organisation in these countries.

You may know more about this than I, but I am under the impression that this is the case. It looks to me that Leverkusen has quite good facilities for export to U. S. A. via Rotterdam, and will be well placed the day their manufacturing costs have gone down to what they ought to be.

I am looking forward with much interest to hear from you and have your comments as to the memorandum and the suggested arrangements.

I beg to add that it has been agreed that Aussig and the I.G. will work out agreements in detail, for the arrangements between them. Copies of the drafts will be sent Blumenfeld and myself and we thought to make use of these as far as possible in working out the agreements here.

With regard to the arrangements for the British Empire of the sales of the Montecatini product, I had the opportunity to discuss these with Mr. Thompson who came over to Paris in this connection.

I was very happy to receive the good news from Mr. Cornish that you were recovering rapidly and may return to the office during this month.

Exhibit 530

Hoping that you return fully recovered and in good health, Mrs. Jebsen and I send our kindest regards to Mrs. McCarty and yourself.

Yours sincerely,

G. JEBSEN

P. S.—Please let me know at your earliest convenience, whether the contemplated visit of Mr. Blumenfeld and myself in the latter part of May or early June is convenient to you.

Exhibit 531

Telegraph Form of

SOCIÉTÉ INDUSTRIELLE DU TITANE

GJ/HS
21 Avril 1931

NLT

MCCARTY
LEADCO
NEWYORK

MET DONEGANI BLUMENFELD BURTON SATURDAY STOP DONEGANI CLAIMED YEARLY SALE 1800 TONS TiO_2 REPRESENTING FACTORY CAPACITY AND EXPORT CONTINUED AFTER FIVE YEARS DECREASING AS ITALIAN CONSUMPTION DEVELOPS STOP I MAINTAINED BASIS OF MEMO LETTER APRIL 10 STOP DONEGANI SUGGESTED MEETING IN THREE WEEKS IN ITALY WITH KUEHNE STOP I TOLD BLUMENFELD THAT DONEGANIS CLAIMS MEAN WE BUY BLUMENFELDS GOODS TWICE STOP BURTON WILL TRY CONCILIATE BLUMENFELDS AND DONEGANIS INTEREST

JEBSEN

Exhibit 532

Letterhead of

TITAN COMPANY, INC.

GJ/AK

Wm. C. Beschorman Esq.
Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Paris, April 13th 1933.

Dear Mr. Beschorman,

I enclose copy of a letter to Dr. Thompson of to-day.

In connection with the same, I would mention that Mr. Blumenfeld, whom you met two years ago, has been co-operating with us with regard to prices for France. This has not worked quite satisfactorily and Mr. Gilbert thinks that it would be better to make an arrangement concerning not only prices but also quotas of the market, which will allow a close control by chartered accountants of both parties' price policy in particular.*)

Mr. Blumenfeld has expressed an interest also in closer cooperation technically; which I have not objected to, in view of gaining time and particularly in view of the French tariffs for goods from Germany being under consideration.

I look forward to have a talk with you regarding these matters when you arrive.

With kindest regards,

Yours very truly,

G. JEBSEN

*) Such an arrangement has, on my suggestion, during my absence been under discussion between Mr. Gilbert and Mr. Blumenthal.

Exhibit 533

Mr. Beschorman

Paris, April 13th 1933.

GJ/AK

CONFIDENTIAL

Dr. G. W. Thompson
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Dr. Thompson,

I have just this moment received a letter from Major Barley as per copy enclosed, which speaks for itself, and forward the same, that you may have an opportunity to talk the matter over with Mr. Beschorman before he leaves.

Major Barley has, on several occasions, expressed an interest in having the Canadian Industries Ltd. interested with you in a Titanium enterprise in Canada. He thought that the cooperation under consideration between you and Dupont in U. S. A. will bring this question further.

The Canadian Industries Ltd. is, as you probably know, owned by the Du Pont's interests, I. C. I. and some Canadian interests.

I refer in this connection to my letter of March 21st, and shall look forward with much interest to hear further about these matters.

In this connection, I would mention that the Germans, in agreement with me, have taken up again conversations with Mr. Mayer of Aussig (Czechoslovakia), regarding a close cooperation in the countries of the Titangesellschaft.

This has been caused by Mr. Mayer informing them that if no understanding is reached, he will start manufacturing in Germany.

The cooperation is thought first to be of a commercial character, regarding prices and quotas of the market, with the possibility of developing into an exchange of technical matters.

With my best regards,

Yours very truly,

Copy to Mr. Beschorman.

Exhibit 533

COPY.

Imperial Chemical Industries Ltd.
Millbank
London S. W. 1.

CONFIDENTIAL.

12th April 1933.

Dr. G. Jebsen
Titan Company Inc.
26 Rue de la Pépinière
Paris

Dear Dr. Jebsen,

Information has just been received from Canadian Industries Ltd. which indicates that Laporte's are actively investigating the possibility of establishing titanium white manufacture in Canada and possibly the U. S. C. I. L. regard titanium white as a logical development for themselves and the point we desire to raise with you is whether it would not be politic to advise the consideration by National Lead Company of bringing C. I. L. into their Canadian Company as possible manufacturers and shareholders in order that they may know exactly where they are. I am sure that such a decision may possibly be influenced by the National Lead/DuPont relations, regarding which we have no exact information.

Do you think it would be possible to discuss the matter with the National Lead people when they come over here next month?

It would appear that Laporte's intend to prosecute their plans energetically and it will be material at sometime in the future to decide the right moment to make an arrangement with them. Probably their plans for expansion would

not allow them to consider any arrangement at the present stage, but it might just be possible to get them to delay their Canadian scheme if they were convinced that National Lead, DuPont, and Canadian Industries Limited had definite and immediate plans in view.

Yours very truly,

L. J. BARLEY (sign.)

Exhibit 534

COMMERCIAL SOLVENTS CORPORATION

230 Park Avenue

New York.

July 20, 1933.

Mr. W. C. Beschorman, Executive Vice-President
National Lead Company
111 Broadway, New York, N. Y.

Dear Mr. Beschorman:

Before Dr. Blumenfeld left, he was so pressed for time that he did not have an opportunity to prepare the memorandum that was spoken of when we were in your office, but he jotted down the points in long hand and gave them to me. I have had them copied and am enclosing 2 copies for you.

This memorandum, I think, includes a statement on all the different points that we discussed and I believe I carefully set them down as given by Dr. Blumenfeld. In order, however, that I may know my secretarial work has been properly performed, I am sending a copy of the memorandum to Dr. Blumenfeld and am asking him to advise me if I have correctly prepared it.

Item No. 10 is not very clear to me, but I think what is meant is, in case either party to the agreement obtains material from the other party in order to fill its quota, the price that is charged for such material shall be on a same basis. I presume it is contemplated that the material for Dr. Blumenfeld's quota in Belgium and Holland may be furnished in part by the I. G. and part of the I. G.'s quota in France may be filled with material furnished by Thann.

Exhibit 534

In regard to Item No. 7, as I understand it, there will be an attempt made to reach an agreement on the division of this grouped business and that later on, the specific allocations to the different countries will be determined. At least, it would seem to me that this would be the simplest way to do it. Apparently the major point of difference is in the division of this grouped business.

Referring to Item No. 11, Dr. Blumenfeld states that the Montecatini production is about 1200 tons and that the Italian consumption is about 600 tons, leaving 600 tons of Montecatini's production to be sold outside of Italy.

Perhaps some explanation should be made respecting Item No. 9. As I understand this situation, it is that at the present time, the actual production of the various factories is less than the current demand, but that the factory at Leverkusen has a large part of the equipment installed necessary to increase its production within a comparatively short time, and it is also so arranged that with a somewhat larger expenditure, a material increase in output may be made.

In arriving at the capacity of plants these points would be taken into consideration so that a statement of capacity of plants will have to be supplemented with a statement of the "nearby" potential capacity and the probable ultimate capacity without additions of major items.

If there is any way in which I can be of any further assistance, I will be glad to do anything that I can.

Very truly yours

(Signed) M. F. CHASE
Vice President

Exhibit 534

MEMORANDUM RESPECTING COMMERCIAL ARRANGEMENTS BETWEEN BLUMENFELD GROUP AND I. G. GROUP

1. Division of tonnage to be based on straight TiO_2—composite pigment to be reduced to TiO_2 equivalent.
2. Aussig territory to be co-extensive with I. G. and arrangements made by Aussig and I. G. to govern.
3. British Empire free to both parties.
4. Italy reserved for Montecatini.
5. Scandanavian countries including Finland reserved for Titan Co.
6. U. S. A. out.
7. France, Belgium and Holland to be grouped and quotas to be discussed.
8. Remaining countries one-third to Blumenfeld, and two-thirds Jebsen.
9. No new factories to be built until present existing plant capacities have been absorbed. Present capacities to be stated.
10. Delivery of product to meet quotas must be on a mutual basis.
11. Excess tonnage of Montecatini over and above Italian requirements to be handled in the same proportions as is agreed upon for Item No. 7.

Exhibit 535

July 25, 1933.

Mr. M. F. Chase, Vice-President
Commercial Solvents Corporation
230 Park Avenue
New York, N. Y.

Dear Mr. Chase:

I want to express my thanks to you for the trouble that you have gone to on the European Titanium matters.

I discussed with Dr. Jebsen before he left last Friday, the memorandum enclosed with your letter of the 20th. Dr. Jebsen will see Mr. Blumenfeld immediately upon his return to France.

Certain points in this memorandum are capable of acceptance by both of us without any further discussion, but at least four points will require quite a lot of discussion before they are ironed out.

With kindest regards,

Very truly yours,

Executive Vice President.

Exhibit 536

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

New York

August 8th, 1933

Mr. W. C. Beschorman, Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

Referring to my letter of July 20th enclosing a copy of the memorandum covering the titanium situation, I have just received a letter from Mr. Blumenfeld stating that this memorandum correctly summarizes the situation.

For your information, I am enclosing a copy of Mr. Blumenfeld's letter.

Yours very truly,

MARCH F. CHASE
Vice-President

Exhibit 536

SOCIETE DE PRODUITS CHIMIQUES DES TERRES RARES

31 Juillet 1933

Cher Monsieur Chase,

Je recois votre lettre du 19 Juillet dont je vous remercie. Je crois que vous avez tres bien resume la situation je vais attendre l'arrivee de M. Jebsen pour essayer de terminer.

Je vous tiendrai regulierement au courant, et dans le cas ou des difficultes devaient se presenter, je vous demande d'intervenir aupres de M. Beschorman.

En vous remerciant encore une fois, croyez, Cher Monsieur Chase, a mes meilleurs sentiments.

(Signed) J. Blumenfeld

Exhibit 537

Letterhead of

COMMERCIAL SOLVENTS CORPORATION

New York

August 18th, 1933

Mr. W. C. Beschorman, Vice-Pres.
National Lead Company
111 Broadway
New York, N. Y.

Dear Mr. Beschorman:

I have just received a letter from Mr. Blumenfeld the following paragraph of which may interest you:

> "I have again had long conversations with Jebsen and I believe that we are finally getting a little closer. I say 'a littie closer' because is is leaving for a month's vacation; I must get in touch with Donegani and Mayer, and if all goes as it should, probably we will sign an agreement during the month of September."

Yours very truly,

MARCH F. CHASE
Vice-President

MFC:bh.

Exhibit 538

Letterhead of

TITAN COMPANY, INC.

GJ/AK Paris, September 15th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Many thanks for your letters of August 9, 22 and two letters of 24.

I am much obliged for keeping me informed about Mr. Chase's correspondence.

I saw Mr. Donegani, Mr. Castellani and Mr. Lovati of Montecatini last Saturday in Milan and found, to my surprise, that they had no communication from Blumenfeld.

Montecatini is quite aware of the danger to their future export to England. It is presumably easier to make an arrangement with them now than later, binding them to a certain program for the other markets by making them concessions, now particularly when these concessions to a great extent can be combined with Blumenfeld's arrangements regarding territories.

Mr. Donegani expressed the following views:

He had to-day an output corresponding to 1700/1800 tons TiO_2 p.a., and could, with very little expenditure, increase it to 2000 tons. He was willing not to extend his capacity beyond this, provided he could export 800 tons, which he, during the conversation, reduced to 700 tons.

Exhibit 538

He would reduce this export quantity as the sales developed in Italy above the difference between his capacity and the 700 tons. He was selling in Italy now about 800 tons and his export to the British Empire this year was at the rate of 600 t. p.a. (last year it was 500 t.) If arrangements were made for a long duration, he saw no objection in letting the sales be done through the I.G.'s and our organisation, on the basis of a reasonable commission.

He pointed out that he was already cooperating with I.G., I.C.I. and Dupont, and will welcome cooperation.

His remarks about Blumenfeld were not very flattering.

I pointed out to him in the start, that my visit was in connection with a vacation trip and I expressed only personal thoughts, without having had an opportunity to talk the matter over with the I.G. or our English friends. I had had some talks with Blumenfeld in New York and Paris, and we were beginning to come closer as to an understanding. I had understood Blumenfeld intended to see him.

Donegani is going to U.S.A. in about a month's time and he or Castellani may come to Paris beforehand.

I have not informed Blumenfeld of my return yet, being busy with clearing my table somewhat.

With my kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I enclose statistics of the export of Montecatini in 1932, in addition to his deliveries to the British Empire.

Exhibit 538

MONTECATINI'S EXPORT IN 1932.

(in addition to their deliveries to the British Empire)

	Tons.
Scandinavia	1
Holland and Belgium	24
Germany	8
Spain & Portugal	11
Brit. Africa, India, Ceylon	4
South America	8
Canada	2
U.S.A.	10
Others	10
	78

Exhibit 539

Letterhead of

TITAN COMPANY, INC.

GJ/AK. Paris, October 5th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I enclose a memo on conversations in London re arrangement B.T.P. and Blumenfeld.

Robinson's views on the question were not encouraging, but not a definite refusal.

His attitude is generally dictated by a strong Empire policy and is a more or less clear expression of being on his guard towards continental firms like Montecatini and I.G. —to say the least.

Tasker was now more interested, and Barley has shown interest all the time.

If W.S. Robinson should take up the matter in New York, I beg you to have the following in mind:

Leaving British Empire entirely out of an arrangement with Blumenfeld and Montecatini will make an agreement for the rest of the world difficult, to say the least, probably impossible.

Blumenfeld can make no arrangement without including Montecatini.

Montecatini's export to the British Empire must be provided for—otherwise it will remain as a disturbing ele-

ment throwing out the balance, and lead to price-cutting competition.

Donegani will, when remaining free, naturally seek the markets, where he gets better prices than in England, where future low prices and high tariff will reduce his profit. He cannot expect immediately to find the customers for the 6 to 700 tons and will continue to sell in England, following B.T.P.'s prices, until an outlet otherwise is found. An offer from Blumenfeld, T.G.m.b.H. and Titan Company Inc. to give room for a certain part of Montecatini's export, provided this remains limited, is therefore of interest to him and also to us in view of the limitation and price regulation.

I have not yet had an opportunity to talk with I.G.

They will of course be antagonistic to allowing Montecatini a relatively large tonnage in their markets, where he hitherto has sold very little.

The advantage to T.G.m.b.H. is particularly in connection with their export markets, as for instance South America, Japan, China, Spain, Portugal, Switzerland.

The same interest have we, Titanine, as to Belgium, Holland and Colonies and Scandinavia.

I am working on this general arangement, in order to prevent the disturbances which Montecatini and a Belgian factory undoubtedly otherwise will cause and, as I have understood that such arrangement is also considered very desirable for the Titanium Pigment Co.'s interests.

The arrangement to be a commercial one and possibly also include technical cooperation.

I have hitherto left technical cooperation to the future—partly because, from previous conversations with Tasker and Barley, I understood they felt the position in British

Exhibit 539

Empire strong enough to prevent Blumenfeld doing anything there. Under those circumstances, I hoped Blumenfeld, within some years, will be happy to let his patents for British Empire go cheap. It may, though, be advisable to take the matter up now, but the building may tumble on that question.

The effect of such arrangements will be:

1) Regulation of prices.
2) After some years our manufacturing position in Germany will be very strong (as most of the factory will have been amortised). The (illegible) factory will be trimmed and have passed the first years more expensive production cost.
3) Acknowledging Blumenfeld a 50—50% position in the French market, will—combined with his French factory—give him a stronger position in the French market than to-day, were it not for the present political situation. This last may change after some years and we then be in a stronger position to import. If not, or at the time Leverkusen is fully occupied—then a question of farther manufacture in France will arise. Here Blumenfeld will be in a favourable position with his factory and manufacturing organisation in France,—on the other hand, his present factory is not well placed, and the increased sales in France will make it easier for us also to put up a factory here.

The French market is anyhow of less importance than the German and the British, but we have a considerable interest in having a sufficiently strong hand in France to prevent the growing of a large competitive factory to export its surplus.

Exhibit 539

If these matters are discussed with Robinson, I will ask you to be very careful not to lay down any definite lines, to which he may refer over here, except expressing National Lead Co.'s interest in having an international arrangement.

It is difficult to foresee what the negotiations may develop, with so many different interests involved.

Robinson is, beyond anything, interested in a merger of all or most of the white pigments as regards the British Empire. Such a merger would in any case be unfair to Titanium at its present state of development and I am very much in doubt if it also later will be in the interest of National Lead Company.

It is in the National Lead Co.'s interest not only to play the role of promoting this industry but also exercise a stabilising influence between the various interests. Having given the English a majority in B.T.P., National Lead Co.'s power in this respect is already weakened, and I may in this respect have to be aided by National Lead Co.'s general influence on Robinson.

If B.T.P. should be merged with Robinson's Lithopone and Zinc Oxide interests our influence in the English enterprise will be very small.

I shall much appreciate your comments to the above, and particularly to receive the headquarters' opinion as to the lines of the Blumenfeld negotiations.

I will ask you not to refer to me, re Robinson's interest in a common selling control or merger of the white pigments, as this has not been mentioned between him and me this summer.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 539

MEMO ON CONVERSATIONS RE ARRANGEMENT B.T.P. WITH BLUMENFELD GROUP

SEPTEMBER 27-29, 1933.

I informed the B.T.P. Board in the last meeting of my negotiations with Blumenfeld and Montecatini, and asked their view, pointing out that my conversations with Blumenfeld and Donegani were in no way binding for B.T.P.

I told them Montecatini had increased their export to British Empire from 500 tons to a monthly average corresponding to 600 t.p.a. this year, and may increase to a rate of 700 tons before we can put our English manufacture on the market.

I suggested an arrangement by which Montecatini undertake not to extend their factory beyond a capacity of 2000 tons TiO_2 and from middle next year limit their export to British Empire to 50% or let us say 350 tons TiO_2. I would then try to see the rest of Montecatini's export provided for in other countries, in order to avoid price-cutting competition everywhere.

Montecatini can export, if necessary, to prices covering only their raw materials, and, having their own and cheap supply of pyrites can charge a very low acid price to the Titanium manufacture.

I also mentioned the danger of Blumenfeld combining with a Belgian manufacturer.

I had talks with Barley and Tasker beforehand, who first thought "British Empire for the British", but very soon saw the advantages of an arrangement.

Tasker meant we ought not to do it without having the Blumenfeld patents thrown in at the same time. Barley thought also that Blumenfeld's patents should be secured

at the same time, and suggested a payment for them of—a cash sum at once—and an annual payment during five years. He thought these agreements should be made for 15 years.

Tasker thought at first the time for B.T.P. making an arrangement was not now, but when our factory has started. He accepted, though, my view that the time was now, as he saw that Blumenfeld starting in Belgium would throw out the balance.

He wanted a full statement of the various relations and sales in the various markets, which he promised to keep as personal information, accepting fully my view that such information circulated to all members would create too many cooks.

In the Board Meeting W.S. Robinson said, he was not against it in principle. The question was, though, very involved.

The government wished the British market supplied with certain materials exclusively from British manufacture—others left for importation.

Having got a tariff, we might be subject to criticism—if not more—when making arrangements allowing a certain importation.

We had not yet started manufacture—the industry was new—and should already be asked to consider such arrangements!

The British industries were repeatedly asked to pay for other nations keeeping out of the market. He mentioned particularly Americans and lead products—looking to Mr. Tasker.

The question was very important and the Board could not express an opinion without closer consideration.

Exhibit 539

He asked to have a written statement of the various relations in the Titan industry, circulated between the Board members, which should be kept confidential.

I said I should be glad to give such. It would, though, help me to have the first reaction to the question for any talks with the other companies.

Robinson was not in favour of arrangements to the purpose of keeping prices high (? ref. sulp. acid).

I said the purpose was not to keep prices high, but to prevent too low prices. I looked upon gradually sinking prices to develop the market.

Tasker: "The purpose is regulation of the prices".

I thought the conversation had been useful, as I understood they all thought a commercial arrangement was only of interest when connected with the Blumenfeld patents.

In this connection was discussed also the Laporte competition. Greeff has not yet met Laporte's new production on the market and a new contract for 25 tons has recently been made by the merchant who previously bought for them.

It was assumed that Laporte's difficulties may make the present time favourable for an arrangement. It was agreed that B.T.P. should ask Laporte for an offer of Blanc Fixe—which may lead up to negotiations.

It was further suggested that we should in case tell them we are in the position to put up a factory for Blanc Fixe and produce at cheap prices, enabling us to compete with them.

(This factory would be based on Whitherite treated on the basis of our experience in Fredriksstad and experiments this year in Leverkusen by Ravnestad and Oppegaard).

Exhibit 540

Letterhead of
TITAN COMPANY, INC.

No. 19.
GJ/AK Paris, October 10th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I had a conversation with Blumenfeld the day before leaving for London, in which I put forward some comments to his memorandum given us by Mr. Chase, and enclose these comments in writing, a copy of which I have also sent to Mr. Blumenfeld.

Blumenfeld told me that he had no answer from Montecatini to a letter written early in August, requesting a meeting. This letter has evidently been ignored by Donegani.

Blumenfeld informed me that the agreement between Aussig and I. G. was now made, and Blumenfeld was therefore free to make arrangements directly with Titangesellschaft, re Japan, China, Spain, Portugal and South America.

Ad meeting with Blumenfeld, October 9.

I enclose a memo regarding this meeting, and add the following comments:

Blumenfeld evidently tried to press me, partly with the English situation and partly with the Aussig agreement.

I doubt much that an agreement can be reached at present between Blumenfeld and B. T. P., regarding pat-

ents. If B. T. P. will make no agreement concerning solely Montecatini's import, the continental agreements re Montecatini will have to be on the line of giving room for a limited quantity of his product against an obligation on his part not to increase their sales above this quantity. In such case, however, Montecatini can rightly ask for a free hand in his export to England and we can not impose upon him the obligation of limiting his capacity. In case the agreements are for a long period, which has been advocated from several sides, this will be unfortunate, as it may be quite possible after, let us say, 4 or 5 years, to see England go back to lower tariffs (see Chamberlain's last speech.)—I do not consider it out of question that England, after having made market arrangements in most of the present industries, under the schedule of its present protective policy, will change this to a more liberal one.

I have hitherto reckoned that when continental agreements were reached with Blumenfeld, time would work so, that Blumenfeld would become more willing to sell his English patents—at the patents' worth—finding he could do nothing or very little with them himself. We must, however, be aware that, with the commercial agreements between the continental interests, there will be an increasing pressure from these parties for an agreement concerning exchange of patents and technical experience, which may create an awkward situation for all parties. If Blumenfeld should make an arrangement of technical cooperation with Laporte or some other English interests, there could be no technical exchange between Aussig-Blumenfeld, on the one side, and T. G. m. b. H.-Titan Inc. on the other side, for the Continent, without the permission of B. T. P. and severing their technical cooperation, unless Blumenfeld's licensee cooperates technically with B. T. P.

Exhibit 540

In view of the uncertain political developments, I am at present most inclined to agreements of a shorter period. I was, though, confidentially informed that for instance I. C. I. contemplates now agreements for periods of 30-40 years.

I mention the above in order to keep you fully informed, although it must seem very complicated to you. Personally I think the best we can do is to keep to the lines we agreed upon in New York, trying to make an agreement with regard to the continental interests, and try to include the British Empire to the extent that this is possible, but, in case, leave that question to the future.

I should much appreciate your comments to the above—from a distance things often can be seen clearer.

I leave to-night for Germany and hope to bring matters with I. G. so far, that a meeting between Blumenfeld and I. G. can take place.

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—N. B. 6th paragraph of my letter of October 5th should be:

Leaving Montecatini's export to the British Empire entirely, etc. . . .

Exhibit 540

COMMENTS TO MR. BLUMENFELD'S MEMORANDUM RESPECTING COMMERCIAL ARRANGEMENTS BETWEEN BLUMENFELD'S GROUP AND TITAN CO.'S GROUP

1. *Division of tonnage to be based on straight TiO_2— composite pigment to be reduced to TiO_2 equivalent.*

Ad 1)—Adjustments to take place on the basis of the quota being applied to all products.

Surplus delivery to be adjusted by the surplus seller to order at the end of the year a corresponding quantity within a limited term or make a pigment corresponding to the year's average profit on that quality in the country in question.

2. *Aussig territory to be co-extensive with I. G. and arrangements made by Aussig and I. G. to govern.*

Ad 2)—Alternative to be studied was for Blumenfeld to retain the countries, which are not yet included in Aussig's territory and eventually make arrangements direct with T.G.m.b.H. and I. G.

Is Blumenfeld now prepared to take a decision in this respect?

3. *British Empire free to both parties.*

Ad 3)—British Empire, excl. Canada, free to both parties—agreed subject to suitable arrangement, regarding Montecatini.

4. *Italy reserve for Montecatini.*

Ad 4)—No comment.

5. *Scandinavian countries including Finland reserved for Titan Co.*

Ad 5)—No comment.

6. *U. S. A. out.*

Ad 6)—No comment.

7. *France, Belgium and Holland, and Luxemburg incl. in Belgium, to be grouped and quotas to be discussed.*

Ad 7)—Quotas for:

	Bl.	Socititane
France		
Of the first 1000 tons TiO_2 contained in all deliveries	55%	45%
Of the second 1000 t. TiO_2 contained in all deliveries	45%	55%
Exceeding quantities	50%	50%
	Bl.	Titan Co.
Holland	30%	70%
Belgium and Luxemburg	30%	70%

Exhibit 540

8. *Remaining countries one-third to Blumenfeld, and two-thirds Jebsen.*

Ad 8)—Quotas for:

	Bl.	Titan Co.
Remaining countries i.e. outside Brit. Empire (excl. Canada), T.G.m.b.H.'s territory, Italy, Scandinavia incl. Finland, North America	33⅓%	66⅔%

9. *No new factories to be built until present existing plant capacities have been absorbed. Present capacities to be stated.*

Ad 9)—No new factories to be built or extensions made until a production has been absorbed of:

900 tons from Thann & Muhlhouse factory

12.000 tons from T.G.m.b.H. factory.

10. *Delivery of product to meet quotas must be on a mutual basis.*

Ad 10) Both parties to deliver to each other at same price at respective works.

Exhibit 540

11. Excess tonnage of Montecatini over and above Italian requirements to be handled in the same proportions as is agreed upon for Item No. 7.

Ad 11) Montecatini to have the right to export 600 tons to be disposed of as follows.

Not more than 75 tons to France, Belgium and Holland

¾ to France
⅛ " Belgium
⅛ " Holland

The quantities for France, Belgium and Holland to be handled in the same proportions as the quotas for these countries.

Of the remaining, Blumenfeld suggests:

Not more than 250 tons to British Empire.
" " " 275 " to be provided for in Blumenfeld's arrangement with T.G.m.b.H. and I. G. for the countries: Japan, China Spain, Portugal, South-America.

Further points.

The principal prices and terms shall be settled by mutual consent, however Titan Co. Inc to have the prepondering influence for Holland and Belgium.

The prices to be fixed so that no loss should be incurred, but on the other hand

the sales should not be impaired by too high a price.

If changes in exchange values should cause an unfair hardship for any of the parties, it shall be tried to make a fair adjustment. If legal conditions, tariffs, or government restrictions should cause extraordinary hardship on any of the parties maintaining this agreement, the parties are free.

Note. T.G.m.b.H.'s right to export to South America is not exclusive. The Titanium Pigment Co. has also the right to export there.

Additional Note.

The countries suggested for Montecatini's 275 tons are those of T.G.m.b.H's territory, in which Aussig does not sell, thus including also Switzerland, Bulgaria, Greece and Turkey.

Montecatini to limit its production to its present capacity. As sales in Italy increase, the export to be correspondingly reduced.

Exhibit 540

MEMO RE MEETING WITH MR. BLUMENFELD, OCTOBER 9, 1933.

Present: Mr. Blumenfeld
" Rodens
Dr. Jebsen
Mr. Hendrikssen.

The meeting was intended particularly to compare the sales in markets which might take Montecatini's export, as Japan, China, Spain, Portugal, South-America. About ¾ of an hour were spent by Blumenfeld finding out the sales for 1932 in those markets. He promised to have the figures prepared for every market, concerning sales in 1932 and from 1/1 to 30/6, 1933, for the next meeting.

Blumenfeld expressed himself strongly against the sale of his British patents. He had not *patents* to sell but his manufacturing rights in the British Empire, and indicated these worth 25% of the British market.

I mentioned in a way of regret that this question may prove the tumbling stone. Blumenfeld went into the air, saying that it had been agreed to leave the British Empire out of the question. I now brought it in, and he felt then, that we were very far from an agreement. He felt himself now to be entirely free.

I told him the question of the British Empire was brought in again by his and my plan of arranging for 250-350 tons of Montecatini product to go to the British Empire. I had then tried to interest our English friends and I could not agree (although being contractually free to

make commercial agreements outside the British Empire) to bind myself at the present stage to make agreements with him without consideration according to the situation as it developed. Having opened the question of an arrangement between B.T.P. and Blumenfeld, the situation may develop to be so involved that consideration of our English friends' interests may be necessary also when viewing the continental interests.

Blumenfeld was afraid that undue pressure would be brought upon him at the time when agreements between the continental interests had been reached, if I then told him I could not make any agreement unless the British Empire also was included.

I told him I had no such thought. B.T.P. may in that case also feel a pressure.

Blumenfeld accepted this, saying he was perhaps too sensitive in view of his disappointment re the English situation. He would, though, write to Aussig that the agreement between Aussig and I.G. had to be postponed. This agreement could not be done without his consent. He had considered the agreement between him and us as practically closed, when in New York, and of this reason he had allowed Aussig to make the agreement with I.G.

I told him this was new to me, as Aussig had never made such reservation. When this, however, was the position, he was justified to do so.

I told him I considered there were other questions which might prove tumbling stones, as for instance Montecatini's export quantities.

Blumenfeld told me with pride that he had seen Donegani who would send Castellani to Paris at any time he wanted, to come to an agreement. (He overlooked that this

was after my visit to Milan, and Donegani had even not answered Blumenfeld's letter).

Finally we agreed to continue our efforts to bring the various interests together.

Blumenfeld tried to charge Montecatini's export outside British Empire pro-rata with quotas not only for France, Belgium and Holland but also for the other countries, but was finally inclined to give in somewhat in this matter.

I told him this had first of all to be on his quota and the question is chiefly a matter for negotiations with T.G.m.b.H. (I.G.) I mentioned that this might also be the tumbling stone, but he had the information from Mayer of Aussig, that I.G. would make no difficulties.

Blumenfeld, as usual, talked mostly in generalities and in an evasive manner and was very difficult to get down to actual facts and clear statements.

It was agreed that after I had seen the I.G., a meeting might be arranged between Blumenfeld and I.G.

Exhibit 541

October 27, 1933.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

I am in receipt of yours of the 5th and 10th—Nos. 15 and 19—regarding your conversations with Blumenfeld and your coliversation in London regarding a Blumenfeld arrangement for the British territory. Thank you for keeping me posted on these matters. Your are in a much better position to develop this from your own knowledge than we are from this end of the line, consequently have no suggestions to make.

With best regards.

Yours very truly

Executive Vice President.

Exhibit 542

Letterhead of
TITAN COMPANY, INC.

No. 34.
GJ/AK Paris, November 24th 1933.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York, U. S. A.

Dear Mr. Beschorman,

RE BLUMENFELD.

The meeting mentioned in my letter No. 30 went off quite well and we came to an arrangement with regard to Montecatini and the quota between Titangesellschaft and Blumenfeld for the Non-Aussig countries, substantially on the lines mentioned on my letter.

This, together with my comments to Blumenfeld's memorandum (given us by Mr. Chase), which I sent you on October 10th—letter No. 19—gives the lines for the contemplated arrangements.

Blumenfeld has informed me that he is substantially in agreement with my comments.

For the sake of clearness, I beg to add to the comments that no arrangement is foreseen for Canada, in accordance with our New York conversations.

May I take it from your correspondence, that arrangements substantially following these lines will meet with approval in New York?

With kindest regards,

Yours very truly,

Exhibit 543

December 14, 1933.

Dr. G. Jebsen
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Mr. Jebsen:

Replying to your letter of the 24th of November—No. 34—re Blumenfeld.

We are in entire accord with an arrangement on the line of your letter No. 19 dated October 10th and your No. 30 of October 31st.

With kindest regards,

Yours very truly

Executive Vice President.

Exhibit 544

Letterhead of

TITAN COMPANY, INC.

Paris, November 27th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose translation of a letter from I. G. regarding a matter which is rather delicate, and of my answer.

The history is the following:

Dr. Kühne told me over the telephone (I believe it was in May) that he had had a meeting with Dr. Schütz (Sachtleben) who had shown him correspondence with Meyer of Aussig showing that he was on the point of arranging with Meyer for the erection of a Titanium factory. Kühne has always been afraid of this. He told me he, with much effort, had got Schütz to refrain from this.

Kühne has not mentioned it since.

On a visit this autumn in Leverkusen, Raspe told me that Kühne had had to give Schütz a compensation for this. The character of the same was not mentioned and no indication of a compensation to be to the charge of Titangesellschaft.

On my visit to Frankfurt October 10th, Weber-Andreae told me that I. G. had had to give Schütz a larger quota

in Lithopone and the cost of this ought to be carried by T. G. m. b. H. He would send me the details and asked me to study them before we talked over the matter. I felt that he did not like to introduce it.

Then arrived the letter of 19th.

On Borgwardt's visit in Paris, November 15th, I expressed a surprise of not having been asked about this and criticised the arrangement in principle. He told me confidentially the following story:

Dr. Kühne had, during the conversation with Schütz, telephoned to Weber-Andreae and got his consent. Kühne had only a few hours to arrange the matter. When the matter afterwards was brought to Frankfurt, Borgwardt had criticised it. It had been taken up with Dir Schütz, who took firm the standpoint that when a director of I. G. had said a thing, it had to be kept by I. G. The result, after several negotiations, was the letter of October 19th.

I told Borgwardt unofficially that I found it a very difficult matter. I agreed that a director's word should be kept good, and I would hate to put Kühne in a difficult position. On the other hand, I. G. was asking us to consent to a payment, the size of which is beyond our judgment, as it is dependent on the development of the Lithopone industry.

I also considered the agreement to be illogical. Dr. Schütz wishes to go into the Titanium industry because he fears Titanium will take the place of Lithopone; but the payment foreseen will be high in case Lithopone flourishes, and low if Titanium seriously competes with Lithopone. In this case Dir. Schütz can terminate the agreement.

Borgwardt pointed out that Schütz was bound anyhow to June 30th 1938, which means in fact June 30th 1937. He asked me to understand that I. G. could not well disclose to

us the position in the Lithopone industry, and suggested, in view of my point, that we should limit T. G. m. b. H.'s payment to a maximum.

The delicate part of it is, that if we do not accept the arrangement to the charge of T. G. m. b. H., Dr. Kühne will be subject to much criticism from his Board and it will give water on the mill of those who have criticised Kühne for his agreement with us.

I can not even find that I. G. can terminated the agreement and it shall then on their part remain in force for the duration of their Lithopone agreement—unknown to us.

I pointed out to Borgwardt that the condition in the last 6 lines of the last paragraph in I. G.'s letter of 17th to T. G. m. b. H. was in no way right. After explanation, he agreed and asked me to consider these lines non existant.

I have no proposal to make at present regarding this. I send it for your information. When Dr. Raspe arrives and when I meet Dr. Kühne, I hope to find out a little more. My inclination at present is,—for the sake of Dr. Kuhne and good cooperation,—to let T. G. m. b. H. take something to its charge, but on clear basis and strictly limited.

I shall much appreciate to have your reaction to the above.

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—I have the impression that I. G. has been taken by surprise by Dr. Schütz—time has elapsed in trying to im-

Exhibit 544

Translated from German.

I. G. FARBENINDUSTRIE A/G.

Frankfurt, October 19th, 1933.

Abt. V. Bgt/Kz.

Dr. G. Jebsen,
26 Rue de la Pépinière,
Paris 8e.

Dear Dr. Jebsen:

As agreed we beg to send you herewith copy of our letter to T. G. of October 17th, regarding the indemnity which I. G. has granted Sachtleben A/G. for abstaining from the erection of a Titanium White factory. Our calculation of the charge to T. G., which according to our letter to them would result therefrom, has for 1932 given an amount of Mk. 77.000.—. For 1933 the amount will be considerably lower, owing to the drop in the lithopone prices in the home market and abroad; we estimate it at about Mk. 45.000.—to Mk. 50.000.—.

The calculation is made by determining the profit, which I. G. would have obtained from the lithopone business given up after deduction of the payments which the Sachtleben A/G. will have to make to Albert and us.

Very truly yours,

I. G. FARBENINDUSTRIE A/G.
(sign.) WEBER ANDREA. (sign.) BORGWARDT.

Exhibit 541

Translated from German.

Paris, October 31st, 1933.

I. G. Farbenindustrie Akt. Ges
Verkauf Chemikalien
Frankfurt a/M.
Grüneburgplatz

I beg to acknowledge receipt of your letter of October 19—received October 3—regarding your agreement with Sachtleben.

This is quite new to me, except that Director Weber-Andreae briefly mentioned the matter on the 16th inst. in Frankfurt, and that Dir. Kühne told me in the spring about a visit of Generaldirector Schütz, Sachtleben, during which the latter had informed him of his negotiations with Aussig —from which plans Dr. Kühne had succeeded in dissuading him.

It was only on the 16th in Frankfurt, that I was informed that it was a matter of financial compensations.

I mention this only for the sake of clearness and will revert to the matter again.

Yours very truly,

Exhibit 544

Translated from German.

I. G. FARBENINDUSTRIE A/G.

Frankfort, October 17th, 1933.

Messrs. T. G.,
Leverkusen—I. G. Werk.

Dear Sirs:

Re: Assignment of Lithopone quota to Sachtleben for keeping away from the Titanium White field.

We beg to hand you herewith copy of an agreement between Sachtleben A/G. and I. G. dated October 9th. 1933, in which Sachtleben A/G. abstain from the manufacture of Titanium Dioxide and Titanium White during the period fixed in the agreement. As compensation we have assigned to Sachtleben A/G. rights, belonging to us, to deliveries in the lithopone field.

The motive for making this agreement was—as you know—the declaration from Sachtleben A/G., that they would, together with Aussig, take up the manufacture of Titanium Dioxide on the Lower Rhine, if an understanding was not arrived at between them and I. G.

As this agreement purely serves to protect the interests of your company, we will permit ourselves in each case to debit you with the amounts which we lose as a result of the assignment of the lithopone quota to Sachtleben. We will make the calculation of these amounts as follows:

At the end of each settlement-period (1 year) will be determined what quantity of lithopone and what value the assigned quotas represent. The amount will be calculated

leben and I. G. have jointly realized from the sale of lithopone. From this value will be deducted the amount which we should have had to carry of the Lithopone-Kontor Expenses if the sale had been effected through I. G., and further the packing expenses. From the clean nett proceeds thus resulting for the assigned quantity will be deducted the average cost price for the settlement period. The difference thus arrived at corresponds to the loss of profit, with which we will *debit* you.

Payments, that we receive from Sachtleben A/G. as a result of the quota assignment, will be *credited* you, as long as the amount due to be paid us by you does not through this credit fall below Mk. 15.000.- a year. This minimum amount represents the amount which we must claim in any case for depreciation and interest for the expenses we have had in the past for the acquisition of the *Hönningen* quota.

We shall be obliged if you will confirm to us that you are in agreement with this arrangement.

Yours very truly

I. G. FARBENINDUSTRIE A/G.

(sign.) Weber-Andrea. (sign.) ppa. Borgwardt.

1 encl.

Exhibit 544

Translated from German.

Frankfort, October 9th, 1933.

I. G. FARBENINDUSTRIE A/G.

Abt. V. Bgt/Kz.

Sachtleben A/G.
für Bergbau und chemische Industrie,
Cologne a/Rh.

Dear Sirs:

MANUFACTURE OF TITANIUM WHITE.

We refer to our repeated conferences and have the honour to confirm the result of same as follows:

1. For the duration of the agreement Sachtleben pledge themselves neither to erect nor to work a Titanium White factory nor in any way to participate in the erection or the working of such a factory.

As Titanium White factory is understood any factory carrying on the manufacture of Titanium or Titanum compounds, and as Titanium compounds are to be understood material or products in which the element Titanium is contained with more than 2% in a chemically or physically combined state.

Sachtleben are, however, not prevented from producing a mixture of Titanium White and lithopone, provided that also this product comes under the mutual lithopone agreement between Sachtleben and I.G., and that Sachtleben take the Titanium White required for the manufacture of this product from I.G. to the extent and as long as I.G. grant competitive prices on equal conditions and for equal qualities.

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II. As compensation for this renunciation the I.G. assign from the quotas, which they have in the Lithopone Syndicate, the following parts to Sachtleben, on the conditions stated:

a) with effect from July 1st. 1933 their part of the right of delivery of the Farbwerke G.m.b.H. Hönningen, in return for which Sachtleben pay to the I.G. in quarterly rates, payable at the end of each quarter, an annual indemnification of R.M. 15.000.—, however, only until the total payments have reached an amount of RM. 150.000.—;

b) their part of the right of delivery of the Chemische Werke, previously H. & E. Albert, Wiesbaden-Biebrich on the following conditions:

1. If the total sales of the I.G., Sachtleben A/G. and the Chemische Fabrik Marienhütte G.m.b.H., Langelsheim, in the home market and abroad in the course of a year, (each time to be reckoned from July 1st.) reach 27.538 tons, then the I.G. assign to Sachtleben one half of their part of the right of deliveries of Albert, each time for the year in question.

2. If the total sales of the I.G., Sachtleben A/G and the Chemische Fabrik Marienhütte G.m.b.H., Langelsheim in the home market and abroad in one year (each time reckoned from July 1st.) reach 29616 t., then and the I.G. assign to Sachtleben also the second half of their part of the right of deliveries of Albert, each time for the year in question.

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3. According to the extent and the time for the assignment of part of the Albert quotas, according to No. 1 and 2, Sachtleben take over, releasing I.G. from the payments of indemnification, which are to be made to Albert according to contract dated the 17./25./27. of July 1927.

III. Should changes take place concerning the distribution of the parts in the Lithopone Syndicate, or concerning the Lithopone Syndicate itself, then, in the relations between Sachtleben and I.G., the quota parts of Hönningen and Albert mentioned in this agreement are replaced by the proper quota parts which correspond to the previous parts of H. and A.

IV. Should the value of the Reichsmark change during the duration of this agreement, then the parties to this contract will come to an agreement about an adjustment of the payments mentioned in II.a., according to the changed conditions in good faith and in the spirit of this contract.

V. This arrangement remains in force for the duration of the mutual lithopone agreement between I.G. and Sachtleben of ..... Sachtleben are, however, entitled also during the term of the mutual agreement to terminate this arrangement by giving 1 years notice before the end of a settlement year, but the arrangement to end at the earliest per June 30th. 1938. If Sachtleben give notice, they are free, already during the last year before the expiration of this arrangement, to take steps for the erection of a Titanium White factory, whereby under such steps is to be understood: "Starting the erection of a Titanium fac-

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tory" or "Passing orders for building materials or parts of the equipment of the factory". If Sachtleben gives notice, the parts assigned to Sachtleben of Hönningen and Alberts rights go back to I. G., the payments to IG. from Sachtleben according to H.A cease, and the payments to Albert according to HB., cipher 3. will again go over to I.G.

We shall be pleased to receive your kind confirmation of the above, and remain,

Yours very truly

I. G. FARBENINDUSTRIE A/G.

(sign.) Borgwardt. (sign.) Dr. Stein.

Exhibit 545

Letterhead of

TITAN COMPANY, INC.

Paris, March 20th, 1934.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

RE BLUMENFELD NEGOTIATIONS.

I sent Mr. Blumenfeld in the latter part of January two drafts for agreements:

1) Dealing with France, Belgium and Holland and the Baltic States.

2) Concerning also Montecatini and Titangesellschaft and dealing with all countries except North America, British Empire and those of Aussig.

Montecatini has accepted the latter.

On March 3rd, in a meeting between Blumenfeld, Castellani, Kjihne, Borgwardt and myself, Blumenfeld suggested a very different form for an agreement: This left so much open for the future, that he presumably wished considerable modifications of what has been agreed upon. Last Thursday he was, though, willing to use our draft as a basis, but will no more accept:

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1) A limitation of the capacity of his French factory to 900 t., but reserves a right to increase this according to the requirements of the French market.

2) He will not let us have the preponderant influence in fixing the prices for Belgium and Holland, as this is a matter of capital interest to him.

On a remark from me, he admitted that this meant a withdrawal from what he had agreed upon. His acceptance of my memorandum (ref. my letters No. 19 and 34) only pertained to the principal points and did not include details like the question of price fixation (sic!).

Mr. Borgwardt had last Thursday a meeting in Basel with the Montecatini people and representatives from Blumenfeld, to the purpose of reaching a working basis for the first 3 or 6 months for the countries excepting France, Belgium and Holland. Montecatini accepted this proposal; but Blumenfeld's representatives would not agree to keep out of the Scandinavian countries as long as no agreement was reached regarding France, Belgium and Holland.

Blumenfeld's representatives pointed out that they were interested in keeping the prices in Holland and Belgium high, in view of the limtiation of their French factory's output with consequently high production costs needing high prices in France. Our interest is to lower the prices as the development of the market makes this wise.

I can understand Blumenfeld's position as to France, but he ought to have considered this last year. It seems that, being presented with the final agreement, some of his assistants have opposed this condition and Blumenfeld is now backing out.

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I have worked towards a cooperation with Blumenfeld chiefly in view of a desire to reach this, expressed from your side as well as the Germans', and in order to bring Blumenfeld on our side with regard to the question of import to France. This latter will no more be the case when Blumenfeld can extend his factory according to the French market's requirements.

We had also in view finally to reach an agreement for technical cooperation.

I wish, though, to point out that the above mentioned experience confirms strongly our impression of Blumenfeld's mentality, which should make one very hesitant to enter into a closer cooperation, as it does not promise well for the future.

Our English friends have hitherto shown a decided disinclination to have anything to do with Blumenfeld, in view of his mentality. A future technical cooperation will be difficult, if not impossible, without a cooperation between also the English company and Blumenfeld. I thought this might have been solved by B. T. P. in time acquiring Blumenfeld's English rights by a straightout purchase, but the above experience is not very encouraging in this respect.

Knowing that the National Lead Company in its general policy is cautious in choosing the people with whom to cooperate more closely, I should much appreciate to hear from you in view of the above.

There may still be open the possibility of a less close cooperation of a strictly commercial character.

I realise that it is very difficult, if not impossible, from your side to give any advice as to such an arrangement, in view of the various alternatives which may develop, but I shall appreciate your advice regarding the principal ques-

tion as to how far you wish me to be influenced by your interests in a cooperation with Blumenfeld.

I am sorry to trouble you with this just before your departure for South America, but, as you will note, this is a fresh occurrence.

Please let me also know who will deal with my correspondence with New York during your absence.

Wishing Mrs. Beschorman and yourself a very pleasant trip to South America and looking forward to seeing you in Europe, I am,

With kindest regards,

Yours very truly,

G. JEBSEN

P. S.—Blumenfeld's proposal of an agreement, which we rejected, meant in reality that we should bind us to him for 5 years and leave practically all important points, except the quota, for the decision of a Committee in which the majority should alternate in periods between Blumenfeld's group and our group, with the right to appeal to an arbitrator in case the Committee's decisions are not acceptable to the one or the other party.

It needs no explanation that this proposal is quite unacceptable, particularly as the terms of the agreement will then be left to the arbitrator—a task which probably no arbitrator will accept.

I enclose an exposé regarding the relations between Blumenfeld's various companies, which I at last have obtained. You will from this note that the arrangement with Aussig, as laid down there, is contradictory to the Aussig agreement with Titangesellschaft (which is signed), as

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Aussig's rights are dependent upon putting up an important factory in Germany. Blumenfeld told me that he did not know the agreement between Aussig and Titangesellschaft and had therefore not approved of this. I did not consider myself entitled to inform Blumenfeld of the conditions of that agreement in respect to this question, as the agreement contains a clause of secrecy.

By the way, one of Blumenfeld's assistants said that the present capacity of the Thann factory is 1200 t. Last summer Blumenfeld said: 700 t. with part-provision for 900 t.

P.P.S.—The TiO_2 content of the European companies' deliveries for January and February 1934 exceeds 1933 by 47%.

Principal Manufacturers and Sellers of Titanium Oxide

Firms belonging to the Blumenfeld group, and definition of their respective status:

a. *Societe de Produits Chimiques des Terres Rares:* with exclusive rights of manufacture and sale with the exception of the following countries: Germany, Denmark, Czechoslovakia, Austria, Hungary, Jugoslavia, Roumania, Danzig, United States, Italy.

b. *Societa Anonima "Titanium"*, in Milan (the society was founded by the "Societe Generale pour l'Industrie Miniere et Agricole 'Montecatini'" in Milan, the "Compagnie Miniere du Nord et des Alpes" in Paris, and the "Societe des Terres Rares" in Paris), with exclusive rights for Italy, with colonies, protectorates and mandates.

This company has non-exclusive selling rights in the following countries: Belgium, Holland, Switzerland, British Empire, Spain, Portugal, South America.

These rights, given by the "Societe des Terres Rares", can be cancelled on three months' notice.

c. *Krebs Pigment and Colour Corporation* (affiliated with Du Pont de Nemours, Wilmington, Delaware) with exclusive manufacturing and selling rights in the United States.

d. *Fabriques de Produits Chimiques de Thann et de Mulhouse:* joint-stock company at Thann (Upper Rhine) with manufacturing and selling rights in France. These rights are exclusive in fact, but not explicitly so granted.

e. *Verein fur Chemische und metallurgische Produktion,* Aussig (Czechoslovakia) with exclusive manufacturing and selling rights in Czechoslovakia, Austria, Hungary, Jugoslavia and Roumania.

This company owns also the exclusive manufacturing and selling rights in Germany, Dantzig, Memel territory and Denmark. These rights are, however, conditioned by the obligation to create sizeable production in Germany.

f. The "Societe de Terres Rares" and the "Verein" jointly own the exclusive manufacturing and selling rights in Poland and Soviet Russia.

Translated by
H. Espenschied
March 29, 1934

Exhibit 546

March 30, 1934.

Dr. G. Jebsen, Vice President
Titan Company, Inc.
26 Rue de la Pepiniere
Paris, France.

Dear Dr. Jebsen:

Replying to yours of the 20th, No. 72, regarding your Blumenfeld negotiations. I am not at all surprised at the turn these negotiations have taken as you probably remember that after my first interview in your presence with Mr. Blumenfeld, in Paris, I expressed the opinion that he was one of the shifty kind that would agree to one thing today and disagree the next.

I know that you had in view finally trying to reach an agreement with him not only on commercial matters but on technical cooperation. In my present feeling toward the matter I would drop any idea of technical cooperation with Blumenfeld unless he could come back to the original understanding that you had with him on the commercial lines it would be my idea to tell him that as far as he is concerned everything is off. I think if you do this you will find that he will probably come back, at least temporarily, to your original ideas.

I am glad to note the increase in the European companies deliveries the first two months of this year as compared with 1933, which amounts to 47%. I am sorry to tell you that the deliveries of Titanium pigments in the United States for the first two months of 1934, as compared with 1933, reduced to a pure TiO_2 basis, show an

increase of slightly over 100%, so you still have something to shoot at.

With regard to mail—kindly continue to send all mail addressed to me here and my secretary, Miss Ashworth, will pass your letters on to the proper parties for attention. This is order that your correspondence will not be scattered all over the office.

With kindest personal regards,

Yours very truly,

Executive Vice President.

Exhibit 547

Letterhead of
TITAN CO. A/S

W. C. Beschorman, Esq.
National Lead Company,
111 Broadway,
New York.

August 9, 1934.

Dear Mr. Beschorman,

I just managed before leaving Paris to make the agreement with Mr. Blumenfeld re. a commercial co-operation for France, Belgium, Holland and the Baltic countries.

It is signed subject to being approved by legal advisers and to the approval of the respective Boards and is also subject to the agreement with Montecatini and Titangesellschaft m.b.H. being accepted by all parties. This last was already accepted by all concerned except Blumenfeld, who wished some changes acceptable to us.

I presume therefore this also will go through. When this is ready—I expect early September after the holidays. I will forward them all to New York, and hope they will meet with approval, as they are substantially on the lines dealt with in correspondence.

In the meantime the co-operation with Blumenfeld as to France, Belgium and Holland has begun and we will have a little more experience.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 548

Letterhead of
TITAN COMPANY INC.
No. 150

Paris, July 9th 1935.

GJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Convention Agreements between the Blumenfeld group and our group for countries outside North America and the British Empire.

Ref. my letter No. 146 of June 22nd.

I have had conversations with Mr. Blumenfeld who has been in contact with Montecatini.

Blumenfeld informs me over the telephone that Montecatini will reduce their demand so that by sales reaching 1620 tons TiO_2 in Italy instead of 1500 tons, they shall cease exporting.

As I am going to Norway to-morrow and Mr. Henrikssn is leaving on holiday, I have asked Blumenfeld to continue these negotiations with Mr. Borgwardt, and I have told Mr. Borgwardt that I am willing to accept this.

Noury & van der Lande.

Mr. Blumenfeld strongly asked me to put our forces together in order to fight Noury & van der Lande on the pat-

ent ground, and was willing to contribute his part of the costs, prorata with his TiO_2 sales. He suggested to leave the management of the procedures to me.

Blumenfeld has, to our knowledge, no patents in Holland.

Prices in Holland and Belgium.

Blumenfeld was in agreement to reduce these prices if necessary in accordance with the English prices.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 549

Letterhead of

TITAN COMPANY, INC.

Paris, February 17th, 1936.

Confidential

SJH/MH

Mr. M. D. Cole
National Lead Company
111, Broadway,
New York N. Y.
U. S.A.

Dear Mr. Cole,

Referring to the minutes from the Meeting of the Board of Titanine of November 7th, 1934, I take pleasure in informing you that the Agreements between the various Companies of the Blumenfeld Group and our own Group, are signed and exchanged between the parties.

I therefore beg to forward separately by registered mail as printed matter, copies of these Agreements together with English translations, as follows:

1) Agreement entered into by Six Companies, which we refer to as *"Contrat à Six" with "Supplement"*. The Agreement is as submitted to the Board in 1934 with the exception that on Page 7, under the heading "Titangesellschaft Terres Rares and Thann" has been added "including their Colonies, Dependencies, Protectorates and Mandated

Exhibit 549

Territories" as far as Spain, Portugal and Japan are concerned, thereby expressing more clearly what was intended.

The "Supplement" is the same as was sent Mr. Cornish and Mr. Beschorman on November 14th, last year.

2) The *"Contrat à Quatre"* between four Companies, as submitted to the Board in 1934, except in Annex "A" Page 4, the paragraph "Responsibility for and quality of deliveries" is rendered more explicit.

3) The *"Contrat de Livraisons"* between the parties to the "Contrat à Quatre", regarding Mutual Deliveries as authorized in the minutes.

I should be obliged if you would kindly acknowledge receipt and remain,

Very truly yours,

S. J. HENRIKSSEN

Exhibit 550.

SALES-REPORT OF THE I. G. FARBENINDUSTRIE FOR 1938.

Turnover:

In 1938 the total turnover of the Titangesellschaft was 7,730 tons of TiO_2 against 7,016 tons of TiO_2 in 1937. So it has been increased by 10.18%. Compared with the turnover of 1935, 1938 shows an increase of 93.25%. Even the number of customers could be enlarged, viz. on 7,950 instead of 7,400 in 1937.

The increase in 1938, however, concerns the German home-market only. Abroad we lost the Japanese business, the Japanese having taken up the manufacture of Titanium White on their own. If we had not lost the whole Japan market, we should have had the same increase in the export business.

Convention Agreements:

As to the *conventions with the members of the Blumenfeld Group* the situation is as follows:

The *contract with the "Verein für Chemische und Metallurgische Produktion, Prag" (formerly Aussig)* was renewed for two years. The quota has been altered in favour of the Titangesellschaft and the new situation with regard to the works at Aussig has been duly considered. Prag has the intention of building a new plant at Hruschau in order to have a production of its own in place of the sold Aussig plant.

The *contracts with Thann and Bovisa* expired on the 31st of December 1938, Bovisa having given notice. The Montecatini Concern had got a license from the Italian government on their request to build another Titanium

factory for export purposes. Therefore, very likely the Italians will be our competitors in all the open markets within two years or so. Notwithstanding the cancellation of the convention-agreement we shall do our best to remain in friendly connection with the members of the Blumenfeld Group.

The convention-accounts for the end of 1938 leave us as over-deliverers so that we shall have to take goods in compensation from Thann as well as from Bovisa. As it has proved very difficult to dispose of such foreign goods we shall try to come to an agreement with Thann and Bovisa on the basis of an adjustment in cash.

Prices:

Our selling prices have remained unaltered during 1938. We think of lowering our rather high prices for the German market, but have adjourned our decision until we can form a final judgment about the price to be handled for Rutiox.

For our export-business we have reduced our prices on the 15th of January 1939 in those countries which belonged up to December 1938 to the territory of the convention cancelled by Bovisa. The new prices have been fixed in such a way that the net result free border will be RM 700. per 1000 kilos.

There is nothing to be said in particular on our export business; the sales territories show partly an increase, partly a slight decline, according to the political situation and the tendency of the market.

Exhibit 550

Different Industries:

The following report on the application of TiO_2 in various technical fields concerns the German home-market only.

As you know, our turnover in Germany is rather distinctly divided between paint-trade and industrial consumption, as we have nearly no manufacturers producing ready made paint, i.e. the dealer sells our pigment directly to the master-painter. This turnover through dealers was in 1938 785 t. TiO2 or 12.32% of the total turnover in Germany.

To the varnish and lacquer makers we delivered 2,238 t. TiO_2, i.e. 35.13% of the total turnover in Germany.

So our total sales for paint and varnish purposes were 3.023 t. TiO2 or 47.45%.

Compared with 1937, there is in this field of application an increase of

5,62% in business through dealers
13,74% in the varnish-and lacquer-industry.

You will see that even now we have not a satisfactory part in the real paint business, though we spend by far the largest part of our propaganda fund for this purpose.

This is due to the fact that the German master-painters who—as mentioned above—prepare their paint themselves mostly by hand, are extremely conservative. They are accustomed to the properties of the old established pigments and feel inclined to consider new pigments to be bad, if their properties and behaviour differ from those of the older pigments. Therefore, in their eyes even very moderate chalking is a fault of the Titanium pigment and a danger to their work.

Amongst the different industries consuming Titanium pigments, the *Paper-Industry* is at present the most interest-

ing one. As you know, we have made up our mind some time ago to make the study of the application of Titanium pigments in the paper-trade a special task of the paper-laboratory of the I.G. Consequently they have visited all the German and part of the foreign paper-makers. In their investigation of our sales possibilities they got the conviction that there were almost no prospects of business at our normal-price for TiO2, because the industry mostly refused to make trials. So we had to make special prices for them and in order not to trouble our ordinary business we decided to make a special brand for the paper-trade, viz. "Titanium White Supra P", consisting of 90% TiO2 and 10% Blanc Fixe. For this brand we fixed a price 25% lower than the normal TiO2 price.

The result of these measures is expressed in the fact that in 1938 we sold 1000 tons of TiO2 to the German paper-makers, increasing our 1937 sales by 65%. The share of our sales to the paper-industries in our total German sales amounts to 15,62%.

This satisfactory turnover is distributed between the different lines of the paper-industry as follows:

for bond-and printing-papers woodfree.	340 tons
" " " " " containing wood	59 "
" fine-papers	76 "
" waxed paper	143 "
" photographical papers	167 "
" laminated card-board	52 "
" different paper-purposes	163 "

It is most interesting to note that just for bond and printing-papers such large orders could be obtained, al-

though formerly we were always told that their quality was quite satisfactory without Titanium and their cost-price could not bear an additional expense for Titanium.

When in 1937 the German board of trade issued an order that in the production of a certain class of bond-and printing-papers a certain part of bleached cellulose should be replaced by unbleached cellulose we expected a substantial increase of our business on account of this order. Indeed our introduction work was facilitated to a certain extent by it. But since some time we are under the impression that in consequence of alterations in the distribution of raw materials in the paper-industry, the order has lost its practical effect.

From this observation we have at first drawn the conclusion that our sales to the paper-industry would decrease. However, up to now this has not happened and, therefore, we hope that the paper-makers, if they have once got accustomed to the use of Titanium, will stick to this product, even if their process of manufacturing undergoes an alteration. We would like to draw your special attention to the increase of Titanium used for the production of raw waxed papers

from 54 tons in 1937
to 143 " " 1938.

We do not believe that the total delivery of waxed papers has grown considerably and, therefore, conclude that the few German makers of this kind of paper do appreciate the use of Titanium for their product.

For coated papers Titanium is not used up to now to an extent worth mentioning. The industry is of the opinion that the printers prefer the old established coating of calandered

papers with Satin W ite to a new paper quality coated with Titanium White. For the other papers of this group Titanium is not used yet on account of its price with the exception of those papers about which Dr. Hansen has made his report yesterday. We shall have to wait until we can make up our mind to reduce our price further as we have done already in the case of cigarette papers. There are only two makers of cigarette-paper in our country which belong both of them to the same concern. They are using Titanium, but they decided to do so only after we made an extra reduction of our normal price by 20% which means that in this case a hundred kilos of TiO_2 contents are sold at RM 66.50. They do not deny the advantage they get by adding Titanium, but they still maintain that this advantage is acquired at too high a price and that, therefore, they can use our product for part of their production only. We feel sure that we should be able to increase our sales in this line considerably by a further reduction of our price, but evidently this would go too far under the present circumstances. For the production of vegetable parchment TiO_2 is not used to a satisfactory extent as the producers declare that by the addition of TiO_2 to the paper stock the difficulty in the process of parchmentation would be increased to a certain extent.

For photographical papers TiO_2 is used in quite satisfactory quantities, but by some factories only. Evidently the possibility of using TiO_2 depends on the manufacturing process. We beg to refer to the report of Dr. Hansen regarding this subject. It may be interesting for you to note that we have a small but regular sale of Titanium White supra P for the opacification of black film wrapping-paper.

Exhibit 550

The consumption in the *Linoleum Industry* has remained stationary in 1938. This industry has partly changed to the production of highly tinted qualities instead of the light ones and for the production of tinted linoleums the use of Titanium White is too expensive on account of its high tinting strength which necessitates a large addition of coloured pigments.

In the *Rayon Industry* our turnover has grown by 12½%. Notwithstanding the difficulties in the discretion which make the product as unpopular as hitherto. The increase is due to the introduction of Titanium in the spun-rayon-production where Titanium is used as delustring addition to the wool like qualities.

In the *Industry of Vitreous Enamels and Cermanics* our sales have not made any progress in 1938.

Exhibit 551

Letterhead of

TITAN COMPANY, INC.

Paris, 10th August 1938

SJH/HS.

M. D. Cole Esq.,
National Lead Company,
111 Broadway,
New York, N. Y., U. S. A.

Dear Mr. Cole:

Back from vacation I find your letter of July 19th and take pleasure in sending you enclosed a copy of the French original letter from Societa Anonima Titanium; Milano, in which they terminate "the 6 Party Contract".

We thank you for transmitting to us the letter from Societa Anonima Titanium, copy of which we had not received.

We had, however, received a similar letter addressed to Société Industrielle du Titane, Paris.

No steps have been taken as yet towards Societa Anonima Titanium in this connection, but the situation will probably be discussed with T. G. and Mr. Blumenfeld in September.

Yours very truly,

S. J. HENDRIKSSEN

Exhibit 551

[COPY]

July 19, 1938.

Dr. Gustav Jebsen, Vice President
Titan Company, Inc
Paris

Dear Dr. Jebsen:

I enclose original letter of Societa Anonima Titanium dated June 30, 1938, sent by registered mail to the Wilmington, Delaware, office of Titan Company, Inc., giving notice of termination of the six-party contract of June, 1935.

I assume that you have had advance notice of this formal action and that in all probability a copy of this notice was sent to the Paris office, but thought it proper in any case that the enclosed original be in your hands. We have retained only an English translation of this letter and if you already have a copy of the French original it might be well if you would send us that copy for our files here.

Yours very truly,

Secretary.

MDC-P

Exhibit 551

TRANSLATION

SOCIETA ANONIMA TITANIUM

Sede Sociale in Milano

Milan, (1/34), June 30th, 1938

REGISTERED

Titan Company, Inc.
7 West 10th Street
Wilmington, Delaware
(U. S. A.)

Gentlemen:—

We refer to the six-party contract concluded during the period of June 10-17, 1933, and beg you to note that in conformity with article 11—Durée—we hand you herewith the required prior-notice for the cancellation of the contract in question.

We would like to add, that in giving you this prior notice we, nevertheless, entertain the hope of coming to a new agreement, to which we would give our best support.

Yours very truly,

SOCIETE ANONIMA TITANIUM

(Signature Illegible)

Ba

Translated by:
J. Lüer
July 12th, 1938
Patent Department
National Lead Company

Exhibit 552

NATIONAL LEAD COMPANY

Office of the President

To Mr. Garesche:

Please return to Mr. Rockwell's office.

Letterhead of

TITAN COMPANY, INC.

No. 10.

GJ/AK Paris, June 1st 1939.

Fletcher W. Rockwell Esq.
President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Rockwell,

Many thanks for your letter of May 19th.

I feel it rather badly that I have not written to you for quite some time and not got my annual report off, but on my last trip to England at the end of April I caught a cold which developed into a grippe and reduced my working capacity to I would say about 1/3. It has been an epidemy of that sort here in Paris and the same happened to several of my friends. I hope to be able to send you my report next week.

British Titan Products Co. had, as you say, a satisfactory year last year and it looks as if we can expect further good developments there. The market I believe should be able to consume a considerably larger quantity

of Titanium pigments than at present. Mr. Stopford did a good job with the acid agreement, particularly as the result has been achieved without disturbing the good relations. Major Barley seemed, though, to feel the result somewhat.

Titangesellschaft has also had a good year, but we will have to be prepared that higher taxation will reduce our profit somewhat in the future.

The sales in the Scandinavian markets are developing well and it seems as if the engagement of Mr. Anker and the extension of our sales activity will show good results.

In Holland and Belgium we have got a good man in Mr. de Vleeschouwer, but in these countries, which are more open for competition, the prices for Zinc Oxide and Lithopone, are low and we had to lower the prices to discourage Noury v. d. Lande who, you may remember, have been trying to make a nuisance of themselves.

France is a problem, as the reasons for domestic manufacture are growing more and more in force.

I had a talk two months ago with Mr. Berr of Kuhlmann, telling him, as we agreed last summer, that we would like to cooperate with them when we erect a factory, but that the time was not yet there. Mr. Berr said that they would always be interested in cooperating with us and would wait until we consider the time to be ripe. However, developments may force our hands earlier than I would like. This I expect to consider with you in the autumn, during my visit.

The sales all round of Titanium pigments, calculated as TiO2, have gone up with 16% in the first 4 months, compared with last year.

Our mine in Norway is, as you no doubt realise, a serious problem.

Exhibit 552

I am of course very interested in the idea which Mr. Garesché wrote me about, regarding the use of Ilmenite instead of Baroide, and look forward to the results of the tests which are being carried out.

Dr. and Mrs. Kühne, Dr. and Mrs. Brüggemann and Dr. and Mrs. Raspe have been talking with me in the last two years of visiting the Mine in Norway in connection with a short trip there. The difficulty has been time and foreign currency. The trip may come off this year, early July, in the way that we receive them in Kristiansand, take them by car to the mine and then to the East coast where I have invited them to spend a few days at my summer place, thus enabling them to travel without much expense in foreign currency.

By the way, Dr. Kühne has taken over, besides his present jobs, also the job of "Generaldirektor" of the factories in Austria, which the I. G. has taken over, and also the representation of I. G.'s interests in the factories in Sudeten Germany, which belonged to Verein für Chemische und Metallurgische Produktion, Aussig,—this adding another 20.000 workmen to his present responsibilities.

Trusting that you and your family are well and with my best personal regards,

Yours sincerely,

G. JEBSEN

Exhibit 553

Sigurd Anderson
Stora Nygatan 31
Stockholm

Stockholm, the 15th November 1940

Dr. G. Jebsen Esq.
c/o National Lead Company,
111 Broadway
NEW YORK

Dear Dr. Jebsen,

Situation Holland.

I received to-day a letter from Mr. Ravnestad according to which the manufacture of lead titanate pigments is being planned in Holland by a company for which one Dr. Rinse is acting as technical adviser. I am not informed of the name of the company in question but will endeavour to have this communicated to you.

In this connection I would mention that Dr. Rinse has opposed our patent application in Holland regarding lead titanate pigments Dutch Application No. 86.431, Case T. 184 which was accepted by the Patent Office and laid open for public inspection in the beginning of this year. The opposition was filed about four months ago and is pending. Judging on the arguments submitted in Dr. Rinses notice of opposition his case does not seem to be very strong, but as he may cite further material later on I would not now venture any opinion as to the result of his action. I will report to you as soon as there are news of interest.

Exhibit 553

Our mentioned Dutch application is based on a U.S. application filed by National Lead Company on the 23rd February 1937 and granted as U.S. Patent No. 2.140.222. I enclose a German Translation of the claims of the Dutch Application.

In addition to this Dutch application we have a Dutch Patent relating to lead titanate pigments viz. No. 32.082, Case T.93. As this patent is limited to pigments containing up to 10 per cent of lead titanate only it will probably not be infringed by the intended manufacture. We consider however this patent to be of some importance in view of more recent developments indicating that rutile (non-chalking) pigments may be produced by calcination of TiO_2 with relatively small amounts of lead compounds. (Du Ponts U.S. Application Ser.No. 215.219, Case DK.53. filed 22 June 1938.)

Yours sincerely

Sigurd Anderson

Exhibit 554

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day

Western Union

December 5, 1940

Nightletter

Stopford
British Titan Products
Eaglescliffe
Stockton-on-Tees (England).

Will BTP agree if we consider advisable that Titanic grant licenses in Titanic retained territory under lead titanate patents without imposing reciprocity regarding inventions as stipulated in license agreements article fourteen Stop Question due wish prevent lead titanate manufactured with conipetitors TiO_2 with possible no export limitation Stop We intend stipulate no export outside licensed territory

Titanic

Exhibit 555

WESTERN UNION TELEGRAM

December 6, 1940

L. W. Haslett,
Canadian Titanium Pigments, Ltd.,
630 Dorchester St.,
Montreal, Canada

WILL CTP AGREE IF WE CONSIDER IT ADVISABLE THAT TITANIC GRANT LICENSE IN TITANIC RETAINED TERRITORY UNDER LEAD TITANATE PATENTS WITHOUT IMPOSING RECIPROCITY REGARDING INVENTIONS. REFER LICENSE AGREEMENT ARTICLE 14 STOP ALTERNATIVE LEAD TITANATE MANUFACTURE WITH COMPETITORS TITANIUM AND NO EXPORT LIMITATIONS STOP WE INTEND STIPULATE NO EXPORT OUTSIDE LICENSE TERRITORY BRITISH TITAN HAVE CABLED APPROVAL

C. F. Garesche

Exhibit 556

Dec. 6-1940

WESTERN UNION CABLEGRAM

A LI147 EQ

EAGLESCLIFFE 33 6 407P

LC TITAN COMPANY INC
111 BROADWAY NYK

A

RE YOUR CABLE FIFTH BTP AGREE TITANIC
HAVE FREE HAND RE LEAD TITANATE
PATENT LICENSES IN THEIR TERRITORY
PROVIDED EXPORT TO OUR TERRITORY
PROHIBITED

BIRTISH TITAN

Exhibit 557

WESTERN UNION TELEGRAM

MOU25 47 DL XU=JS MONTREAL QUE 9 1135A

1940 DEC 9 PM 12 08

C F GARESCHE, NATL LEAD CO=
11 BROADWAY NYK=

PROPOSED LICENSE AGREEMENT SATISFACTORY TO CTP ON UNDERSTANDING THAT EXPORT TO CANADA NOT PERMITTED STOP DO YOU THINK IT ADVISABLE PROVIDE PROTECTION AGAINST POSSIBILITY THAT PROPOSED LICENSEE MAY OVERCOME EXPORT RSTRICTION BY PERMITTING OTHERS THAN CTP TO PRACTICE ANY PRESENT OR FUTURE CANADIAN PATENTS OF PROPOSED LICENSEE.

L W HASLETT.

CTP CTP.

Exhibit 558

Letterhead of

CANADIAN TITANIUM PIGMENTS LIMITED

December 9th, 1940.

Dear Mr. Garesché:

I thank you for your telegram of 6th December and am enclosing herewith copy of my reply despatched this morning.

It is my understanding that you have in mind granting a license under the Lead Titanate Patents to an unspecified party within the territory of Titan Co. Inc., and that this licence will not oblige the licensee to submit inventions and information to the licensor. As consideration for the license, however, the licensee will agree to refrain from exporting Lead Titanate beyond the license territory.

We are glad to agree to the proposed licence as any objection we might have had is eliminated by the export restriction. In this connection, however, it occurred to us to raise the question of the possibility of the licensee permitting third parties to practice its present or future Canadian patents on Lead Titanate, as if this were the case we might find ourselves in approximately the same position as we would be in the event that exports by a licensee were permitted. Probably this point has occurred to you but I thought it well to mention it inasmuch as it will apply also to U. S. territory.

In due course, we will be interested in learning the identity of the proposed licensee and the territory affected. At the same time, we will be glad to know whether the

Exhibit 558

proposed agreement covers existing patents only, or if it includes both existing and future patents and inventions as well.

Yours sincerely,

L. W. HASLETT.
L. W. Haslett.

C. F. Gadesché, Esq.,
Manager, Titanium Division,
National Lead Company,
111 Broadway,
New York City.

Exhibit 559

[COPY]

December 11, 1940.

Mr. L. W. Haslett, President
Canadian Titanium Pigments, Ltd.,
630 Dorchester Street, West
Montreal, Que.
Canada

Dear Mr. Haslett:

Thank you for your telegram of December 9th advising that it will be satisfactory that Titan Inc. give a license for the manufacture of lead titanate without imposing the reciprocity obligations covered by Article 14 of your license agreement. Your letter of the same date is also acknowledged.

As regards the possibility of the proposed licensee overcoming the export restrictions by permitting others than CTP to practise any present or future Canadian patents in Canada, we feel that that danger (even tho it probably is very remote) will exist whether or not we sub-license. By sub-licensing, we hope to obtain improved cooperation and thereby better protection for not only the interests of Titan Inc., but its associated companies.

The situation as regards lead titanate is that our patent is rather weak, covering only a product improvement; the improvements being particularly in the phases of color and particle size. The proposed licensee has already made experimental quantities of this pigment, and the probability is that we would be unable to stop them. We feel the situation would be very much improved if we arrange to allow them to manufacture it under our patent, supply them with

the necessary semi-finished titanium pigment and arrange that we have the exclusive selling agency for the product. We, of course, do not know as yet if we can consummate the arrangement we have in mind, but appreciate your approval of our proceeding with negotiations. We will advise you further when, and if, the arrangement is concluded.

Yours very truly,

(signed) C. F. GARESCHÉ
Manager

cc Dr. Jebsen
Mr. Kaegebehn

Exhibit 560

NATIONAL LEAD COMPANY
111 BROADWAY, NEW YORK, N. Y.

THE FOLLOWING IS CARBON COPY OF TELEGRAM SENT THIS DAY

RCA
December 11, 1940

NIGHTLETTER

Titanco
Fredrikstad (Norway)

Inform Vleeschouwer One Leadco has developed two TiO2 pigments and one C30 pigment which Robertson considers will take most of Leadtitanates prospective markets after war and make future competition from Leadtitanate unimportant Stop Agreement Hollandische then places Belge awkward position Two Agree Bommens view Hollandisches possible tendency export Leadtitanate and manufacture TiO2 pigments Development above situation will intensify this Stop If Vleeschouwer still wish grant license we agree provided you obtain Teges and Igs release from imposing reciprocity regarding inventions stipulated in license agreements article fourteen License should be only under existing Leadtitanates patent rights Holland perhaps Belgium and respective colonies Indispensable condition prohibition export outside licensed territory Stop Assume you eventually inform Vleeschouwer regarding other license conditions usual practice Stop Agreement should have simple form

Titanine

Exhibit 561

TRANSLATION

SOCIETE BELGE DU TITANE

BRUSSELS

COPY

EXPRESS

Dr. Raspe
c/o Titangesellschaft m. b. H.,
Leverkusen,
DV/SB

December 9, 1940

Dear Dr. Raspe,

LEAD TITANATE

Please find enclosed a report of the very recent visit to the Arnhem offices of Hollandsche Metallurgische Bedrijven (H. M. B.).

I think that it will not fail to interest you, so much the more, since therein is set forth the way in which H. M. B. shall eventually be able to procure for itself the necessary lead for the manufacture of pigment.

Having before me the copy of letter No. 266 which Titan Co., Inc. (Mr. B. W. Bommen) wrote to you last November 23rd and which gives an interpretation of the telegram sent by Dr. Jebsen to Fredrikstad on the subject of Dutch lead titanate, I am still wondering if after all that we know it will be necessary to be held up by patent and license questions, which H. M. B. does not consider.

I should be very grateful if after reading this report and my letter, you would get into telephonic communication with Fredrikstad to explain to them once again the situation and to ask if it is not really better for us to agree for the time being with the Dutch firm, for example, until 6 months or one year after the end of the war situation, a time when the

Exhibit 561

Societe Belge du Titane would have its hands free and could once again employ a Kronos titanate manufactured either by T. G. or by the Americans. We could sell H. M. B. our titanium oxide at a price sufficiently high that we could arrive at a high sales price of Lead Titanate, in such a way that the price of titanium oxide S 1314 would be considerably lower. This would greatly facilitate the development of the sale of Oxide S 1314, which according to your technical men should be the best competitor of lead titanate.

I am sending the same request to Mr. S. J. Henrikssen, the engineer, for if we do not act rapidly and if we hesitate once again on the questions developed in the letter of Titan Co., Inc., with reference to the patents, we shall get no further forward.

It is absolutely imperative that we be in a position to make definite terms with the Dutch firm before Christmas.

The report included herein also will have this interest for you in that it permits you to make your agreement almost at the time that Noury & Van der Lande definitely cease their activity in what concerns titanium oxide. Is repurchase of material by H. M. B. the indication that this firm is sooner or later going to attempt to manufacture titanium oxide? Personally I hardly think so. The day that H. M. B.-Billiton resumes this manufacture, they certainly will procure for themselves more adequate material and can be more modern than that of Noury & Van der Lande.

I strongly hope, therefore, for a quick reply to my letter from you, giving me from Fredrickstad a *yes* or *no* as to an agreement to be concluded in the next few days with H. M. B.

Awaiting your reply, dear Dr. Raspe, I extend to you my best wishes.

(s) J. De Vleeschouwer

c Mr. S. J. Henrikssen,
c Titan Co., Inc.

Exhibit 562

COPY

TRANSLATION

SOCIETE BELGE DU TITANE
BRUSSELS

Titan Co., Inc.
c/o Titan Co. A/S,
Fredrikstad

EXPRESS

Letter No. 93
December 9, 1940.

DV/SB

Gentlemen,

We enclose for your attention a report of the visit that we have just made to the Hollandsche Metallurgische Bedrijven (H. M. B.) and we acknowledge the receipt of the copy of your letter No. 266 of November 23rd last, addressed to Titangesellschaft.

We have read with interest the interpretation that you give to the telegram addressed to you by Dr. Jebsen relative to an eventual agreement with H. M. B.

We are surer than ever that these factories attach no importance to patent application No. 86,431 filed in Holland.

Taking this into consideration, we have requested Dr. Raspe to telephone you to request definitely your opinion and to know if, *yes* or *no*, we can come to terms (*Translator's note:* The phrase used here may have the significance of "to have a secret understanding". In any event, there is generally a connotation of an act done secretly

Exhibit 562

when this phrase is used.) with H. M. B. In our own opinion, and under the present circumstances, it would be most important that we should have in our own hands the sale of this lead titanate until, for example, 6 or 12 months after the present developments. At the moment we could get ourselves released and reassume the sale of a Kronos titanate.

By selling titanium oxide to H. M. B. at a price varying between *70* and *75* fls.—(they are paying *80 fls.* at the present moment), we have set a relatively high sales price for Dutch Lead Titanate, a price which would be accepted by certain clients and a price which would be favorable to the introduction of S 1314.

Keeping in mind that it is indispensable to make definite agreement with H. M. B. before Christmas, we request you to reply by return post express.

In anticipation of your reply, we extend, gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S. A.
Administrator - Director

(s) J. De Vleeschouwer

c Mr. S. J. Henrikssen.

Exhibit. 562

TRANSLATION

COPY

REPORT P.K.

HOLLANDSCHE METALLURGISCHE BEDRIJVEN—ARNHEM

Interview with the Technical-Director, Mr. DeVriendt.

Mr. DeVriendt expressed his satisfaction to be able to have an interview again with us on the subject of Lead Titanate. He considered that in this way we possess certain interests parallel with his and those interests would lead him to express a hope that a final agreement might be made in so far as it concerns the sale of Lead Titanate. Mr. D. said that he saw several ways of handling this matter: either to take upon himself the sale which would not be very difficult for him, since all paint manufacturers who would use Lead Titanate were known to him—or to enter into an agreement with us—or to make an agreement with Pieter SCHOEN, who had already approached him and had called upon him—or with the Handelsmaatschappij VONK at Amsterdam, a firm well known in Holland, or with one firm or another, some of whom had already written to him and others of whom would not fail to do so immediately, as soon as production of Lead Titanate was better known. Up to the present time he had not replied to any request while awaiting our definitive position, such as it was envisaged at the time of our first interviews. However, he had not stood still and had, over and above manufacture on an industrial scale of Lead Titanate (a quantity of nearly 10,000 kgs. was already produced), sought to place his product on the Netherlands market. To this end, numerous circular letters had been sent to several firms in Holland.

Exhibit 562

Sending these circulars had not been without fruit: several trial orders of several hundred Kgs. had been received and filled, and the requests cited herein had been received.

It is to be noted from what precedes that the deliveries in question were made to firms to whom we had not yet introduced our product for reasons known.

Mr. D. was rather taken back by the fact that our product was not yet known by every paint manufacturer.

Lead Titanate delivered by H.M.B. was sold at *93 Fls.*— per 100 Kgs. packed in barrels of 50 Kgs.

Manufacture was made in little rotating furnaces with a possible monthly production of a few tens of tons.

Manufacture itself gave no difficulties, although it demanded very great attention in order to give all required qualities to the finished product.

After sending out the trial orders, Mr. D. had prepared an exhaustive study of his product comparing it with our Lead Titanate and had had the office of Dr. Rinse at Haarlem prepare an identical study.

The first reports were favorable and Mr. D. does not doubt that his Lead Titanate will have properties at least identical to our pigment. The few difficulties that could exist at the present time, for example regarding absorption of oil, will disappear with subsequent manufacture, especially if these are made on a large scale with continuous production. The reason for these divergencies is principally found in the simultaneous calcination of our TiO_2 and litharge.

N.&v.d.L. having let it come to him that they were definitely abandoning all plans of making Titanium Oxide, he had profited thereby by purchasing an important part of

their manufacturing plant, among other things their two (large) electric rotary calcination furnaces.

The two furnaces in question will permit him to maintain a sufficient industrial yield filling all demands and assuring a supply, if necessary, of 2 or 3,000 tons a year.

The furnaces in question are being installed at Arnhem; the secondary material necessary has just arrived (vats, machine wells, motors, etc.). Over and above the material, Mr. D. also purchased from Noury a semi-finished lot of Titanium Oxide.

H.M.B. has, therefore:

1) made Lead Titanate on an industrial scale,

2) possesses an acceptable product for paint manufacture,

3) has sold its lead titanate to different firms in Holland,

4) has concluded the preliminary job of introduction,

5) has purchased and disposes of material necessary for continuous manufacture on a large scale,

6) intends to push its manufacture with or without our cooperation.

The only inconvenience at the moment is that of purchase of primary material.

As to TiO2 Mr. D. has no fear. Either we deliver to him directly or he purchases indirectly from one of our clients, or he procures it directly from Thann or imports from Italy.

As to litharge the problem is more difficult. At the moment Mr. D. has a quantity of litharge sufficient for manufacturing 35 to 40 tons of Lead Titanate. Moreover, he is currently engaged in negotiations with the German and Italian

supply houses for litharge who have assured him more or less important deliveries in the near future. In conclusion Mr. D., who is very well thought of by the "Section for distribution of primary materials for the paint industry" at La Haye (Translator's note: The Hague), hopes to be able, through the good offices of this association, to succeed in having a part of the lead which at the present time is allotted to the manufacture of white lead allotted to the production of litharge, which would be useful for the production of PbTiO3.

It should be noted that at the present time the Netherlands industry is allotted approximately 30 per cent of its normal consumption of metallic lead.

This normal present consumption is about 650 tons. It is certain that if all this should be realized, Mr. D. could not look forward to the manufacture of thousands of tons of PbTiO3, but he understands that this is only for the post-war period. In the opinion of several paint technical experts who were consulted, it would be necessary to consider that a consumption of 1,000 tons of Lead Titanate by Holland alone would be relatively easy of realization in the near future!

NET COST AND SALES COST

In establishing his sales price, Mr, D. has sought to maintain the same margin of profit between that of cost of primary material before the war and our sales price of Lead Titanate. Thereby he had arrived at an approximate difference of 33 Fls. which he wished to maintain at the present time. Recently he purchased German litharge at *50.75 Fls.* per hundred Kgs.; together with our price of

Exhibit 562

TiO2 (80 Fls.)—the cost of primary material would amount approximately to *60 Fls.*—per hundred Kgs. Augmenting this value by 33 Fls.—we have the sales price of *93 Fls.—Per 100 Kgs.* which was set by H. M. B.

AGREEMENT WITH S. B. T.

The agreement was made with us for the following reasons:

1st) We are the chief supply in Holland of Lead Titanate

2nd) we are an honorably known firm and we are in contact with most possible consumers of lead titanate.

3rd) we regularly supply TiO2.

An agreement could be sketched guaranteeing to us exclusive sale of the production of H. M. B., for the present time for Holland alone, and perhaps for Belgium, wider export not being settled at the present time.

No minimum previous deductions would be set forth, but the agreement would be made to push sales actively by every means at our disposal. A sales price would be established by joint agreement in which we could take account of the benefit which we already realize by the sale of TiO2 to H. M. B., which would diminish the sales price of Lead Titanate in comparison with the price set by H. M. B. We should look forward to a sales price of Lead Titanate at approximately *80 Fls.*

It would be necessary to guarantee to H. M. B. that we shall undertake exclusive sale of their Lead Titanate over and above that of our own factories. The agreement would

be to a definite period after the end of the war, at which time another agreement might be considered.

Mr. D. naturally wished to have matters settled very soon. He could not make other firms soliciting him wait much longer. It was agreed with him that before the end of this month we should take, in some manner, our position.

It remains to be noted still that in the course of the interview Mr. D confirmed that the definite projects of manufacture of TiO_2 by his firm were ready, but that he had drawn back until the present time because of inherent difficulties of such an enterprise and, therefore, had devoted himself to the production of Lead Titanate which was easier.

PATENT

H. M. B., without being a creature of the State, must nevertheless be influenced by some governmental influence, quite probably in view of financial aid given it.

One may, therefore, believe that H. M. B. considers its position from the point of view of patents for manufacture of Lead Titanate as very strong, even unassailable, because if not they certainly would not venture to commence an enterprise upon a basis which is not permitted.

Mr. D. says as well that the patent concerning the manufacture of $PbTiO_3$ would never be granted in Holland.

SOCIETE BELGE DU TITANE
Administrator - Director

J. De Vleeschouwer

December 9, 1940

(s) P. S. KERSTEN

Exhibit 563

Copy EE

NLT

Cable from New York, 12/12.1940:

Titanco Frédrikstad,

Inform Vleeschouwer

one Leadco has developed two TiO_2 Pigments and one C-30 Pigment which Robertson considers will take most of Leadtitanates prospective markets after war and make future competition from Leadtitanate unimportant stop.

Agreement Hollandische then places Belge awkward position.

two Agree Bommens view Hollandisches possible tendency export Leadtitanate and manufacture TiO_2 Pigments development above situation will intensify this stop.

If Vleeschouwer still wish grant licence we agree provided you obtain TEGES and IGS release from imposing reciprocity regarding inventions stipulated in licence agreements article fourteen.

Licence should only be under existing leadtitanates patent rights Holland perhaps Belgium and respective Colonies.

Indispensable condition prohibition export outside licensed territory stop.

Assume you eventually inform Vleeschouwer regarding other licence conditions usual practice stop.

Agreement should have simple form.

TITANINC.

Exhibit 564

TRANSLATION

COPY

Fredrikstad, December 13, 1940.

RI/HL—No. 92

AIR MAIL
EXPRESS

Mr. J. De Vleeschouwer,
Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Dear Mr. De Vleeschouwer,

LEAD TITANATE

We have not yet received by mail the details set forth in the memorandum of Dr. Jebsen which we communicated to you on the 3rd instant.

Today, however, we received a telegram from Titanine, a copy and French translation of which we enclose herewith.

Mr. Ravnestad will concern himself with the question raised relative to T. G. and I. G. Farbenindustrie and will write them. He will also transmit to you the details concerning the conditions ordinarily required for a license. While waiting you, of course, will send to us your proposals for the text of the final agreement as envisaged. You seem already to have had an exchange of views on this subject with Mr. Henrikssen, who, according to what you say, seems to be in favor of a binding agreement, and

whose proposals for the details of agreement would be of value, since he has been able to discuss the situation in all details with you face to face.

We have telegraphed to Dr. Raspe that this letter has been forwarded to you by mail today—requesting him to advise you of that fact—but aside from this we have not communicated with him since the telegram of the 3rd of the current month, concerning which you already know, and we did not send a copy of the present letter to him. Perhaps it is not necessary for you to indicate to him the first part of Dr. Jebsen's telegram.

While waiting to hear from you, please be good enough to confirm by telegram the receipt of this letter.

Please accept, dear Mr. De Vleeschouwer, our very best wishes.

(s) RAGNAR IUELL

Exhibit 565

COPY

TRANSLATION

VIA AIRMAIL

Fredrikstad, Norway,
December 13, 1940.

Rd/KE—*Nv. 93*

Mr. J. D. Vleeschouwer,
Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Lead Titanate

We acknowledge receipt of the letter of Mr. Iuell of the 13th of December, as well as the telegram mentioned therein.

As the telegram clearly sets forth, National Lead Company has developed three new types of pigments which presumably may be substituted for Lead Titanate pigment and with little difficulty may become a strong competitor for Lead Titanate.

You certainly will take into consideration these facts in judging on the question of granting a license.

We should also in that connection like to point out to you that we may give such a license only in conjunction with our allied industries; that is, Titangesellschaft and I. G. Farbenindustries, if you should consider the granting of a license advisable. An eventual license should be confined to Holland and in given cases to Belgium, as well as

Exhibit 565

their Colonies, with the express understanding that there shall be no exceptions from the territory covered under the license. If you consider a license desirable, as soon as we hear from you we shall consider the deviations in the license, already returned, in detail. In this case we shall immediately enter into an agreement with Titangesellschaft.

We await your reply with interest. Please, if possible, discuss this question with Mr. Henrikssen.

Most respectfully,

(s) A. J. RAVNESTAD

Exhibit 566

COPY

TRANSLATION

Fredrikstad, December 13, 1940.

RI/HL—No. 291

Titangesellschaft m. b. H.,
Leverkusen I. G. Works,
Cologne on the Rhine

Subject: *Lead Titanate—Holland*

We have not yet received by letter the instructions from Dr. Jebsen, of which we were informed in our letter of the 4th, but this very day we have received a telegram from Titanine, U. S. A., with important information which we have passed on today by letter to Mr. De Vleeschouwer.

We set forth the telegram of today for your consideration:

> "Please inform Vleeschouwer letter Lead Titanate on way to him"

so that you in the meantime can be certain to advise Mr. De Vleeschouwer, and for this I thank you very heartily.

Most respectfully,

(s). RAGNUR IUELL

Exhibit 867

TRANSLATION

Fredrikstad, Norway,
December 18, 1940.

HBE/HH *No. 96*

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels, Belgium.

Lead Titanate Patent—Holland

We take note of your letter of the 9th of this month, as well as your letter to Dr. Kaspe of the same date.

The protective laws which may come into question with regard to the granting of licenses are, namely:

Holland Patent No. 32,082 (T-93/94).
" Anm. " 86,431 (T-184).

Although H. M. B. had given an impression that our patent rights within the sphere of Lead Titanate pigments, in so far as their contemplated manufacture was concerned, were of no account, we considered it nevertheless possible and indeed probable that manufacture without a license would mean a patent violation. It must, however, be considered that our patent announcement No. 86,431 (concerning which Dr. Rinse has raised an objection) continues patent protection until the final decision of the patent office.

In this connection we might mention that it is not entirely clear to us how far H. M. B. on the one hand considered our patent protection as worthless, while on the other hand they considered it of sufficient importance to file an objection.

Exhibit 567

We strive to grant non-exclusive licenses for individual cases and these licenses should be joined up, if possible, with other agreements, in such a way that the licenses are legal as long as the agreement itself.

As other customary stipulations may be proposed:

The maintenance of patent protection will be taken care of by us.

No other guarantee can be given than that which is given by us with the patent protection.

We undertake no responsibility for maintenance of the patents or in the event that the patent protection ceases for any grounds whatever.

It would be a natural consequence of an understanding with H. M. B. that this firm withdraw its objection.

We are sending copy of this letter today to Dr. Raspe and we will be very glad to hear further from you.

Most respectfully,

A. J. RAVNESTAD

Encl:

Copy to Dr. Raspe.

Exhibit 568

TRANSLATION

Fredrikstad, Norway,
December 18, 1940.

Rd/EE—*No. 299.*

Dr. Raspe,
Titangesellschaft m.b.H.,
Leverkusen—I.G. Works

Dear Dr. Raspe,

Lead Titanate Patents.

We take cognizance of the letter of Mr. De Vleeschouwer to you of the 9th.

With regard to a patent agreement we might make the following observations which should be considered in case there still remains a reason for collaboration with H.M.B. instead of the Societe Belge.

The protective laws which might be considered for a license agreement are:

Holland Patent No. 32,082 (T.93/94)
" Anm. " 86,431 (T.184),

As you know, sub-licenses are enjoined conformable to the further protective provisions of paragraph 14 of the license contracts. Since in the foregoing case it would only be a question of the granting of a simple license without the protective provisions envisaged in paragraph 14, we must accordingly secure the approval of our associated companies; that is, of Titangesellschaft as well. On that account may we ask you, in case Mr. De Vleeschouwer is interested in the granting of a license, to secure the necessary approval.

Exhibit 568

The license granted shall be non-exclusive in character.

It seems to us that the manufacture of Lead Titanate by H.M.B. indicates competition for our pigments, and that Dutch manufacture also makes more difficult the introduction of new pigment qualities on the part of Titangesellschaft and N.L. Company.

It is also a question whether a manufacture of this kind might not set up a permanent interest in H.M.B. for the manufacture of titanium pigments, and that a license in the indicated sense might also lessen competition on the part of H.M.B.

We refer to our letter No. 297 in addition to enclosures, and inform you that copy of this letter goes to Mr. De Vleeschouwer today.

We enclose copy of letter of today (No. 96) to Mr. De Vleeschouwer and await your further reply with interest.

Most respectfully,

A. J. RAVNESTAD

Enclosure:

Copy of our letter
to Mr. De Vleeschouwer.

Exhibit 569

TRANSLATION

Fredrikstad, December 18, 1940.

VIA AIRMAIL
EXPRESS

RI/HL—No. 297

Titangesellschaft m.b.H.
Leverkusen I. G. Works,
Cologne on the Rhine

Subject: LEAD TITANATE

We have received a copy of the letter from the Societe Belge of the 9th of December and transmit to you the enclosed copy of our letter of today to the Societe Belge, with a request that you send on a copy to the Societe Belge as soon as possible.

Thanking you in advance, we remain

Most respectfully,

(signed) RAGNAR IUELL

Encl.

Exhibit 569

TRANSLATION

RI/HL—No. 97. Fredrikstad, December 18, 1940.

VIA AIRMAIL
EXPRESS

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Att: *Mr. De Vleeschouwer*

Subject: *Lead Titanate*

Your letter of the 9th of December (No. 93) crossed our letter No. 92 of the 13th of December, which has already given you Titaninc's opinion with regard to the question of cooperation with H.M.B. for Lead Titanate.

We shall transmit to you the further plans which Dr. Jebsen had under consideration at the beginning of December as soon as they arrive. We hope that in the meantime you will have had an opportunity to discuss the matter with Mr. Henrikssen.

We refer to today's letters of our Patent Department to you and to T.G. (copy), and should like to know whether you think it advisable to conclude an agreement with H.M.B. in view of the new aspect of the matter (new American pigments).

Such an agreement, of course, can only be concluded through the granting of a license to Titan Co., Inc., under the present patent laws in the sphere of Lead Titanate pigments. We await your advice on this matter.

The agreement can only be made in case T.G. has declared itself in harmony with the granting of a license without the obligations mentioned in paragraph 14 of the license contract.

Exhibit 569

The agreement must only bind Holland and, in case *you* wish it, Belgium, with Colonies—no export on the part of H.M.B. outside of the terms of the license.

The pre-supposition of the agreement must be that the quality corresponds with that of American manufacture ("TITANOX-L").

Complaints as to quality must be made good by H.M.B. (Have you discussed with customers the experience they have had concerning Lead Titanate with H.M.B.?)

We understand that you alone are going to purchase Lead Titanate only from H.M.B. and at a fixed account, and we take it that you will be able to figure on a fixed period of time for your profit and for your sales and administration expenses; further, that you are going to be able to dispose of TiO_2 at an advantageous price. Perhaps we ought to be consolidated (per ton of TiO_2); at least we ought to make as much on that as we shall lose on the sale of TiO_2 to other customers, in approximately the same quantities.

Apart from your stories about Titanox-L, you are certainly not going to sell any other Lead Titanate while final negotiations proceed. Of course, it is to be noted in this connection that the preliminary for an agreement must be that you must be entirely independent as far as sale of other manufactured grades of pigments and pastes made by us is concerned, and this must also apply to new products.

We should be glad to hear from you further in regard to the matter, with an eventual proposal for a settlement between you and H.M.B.

Most respectfully,

(signed) RAGNAR IUELL

Copy to T. G. for transmittal to the
Societe Belge du Titane, Brussels.

Exhibit 570

TRANSLATION

Fredrikstad, January 28, 1941.

RI/HL—No. 129

Societe Belge du Titane,
61, rue Marché-aux-Herbes,
Brussels.

Gentlemen,

Lead Titanate

I thank you for your letters No. 124, 129, and 140 of the 6th, 8th, and 16th instant, the first containing a copy of letter No. 2 of Mr. Henrikssen dated December 17th. We have in the meantime also received a copy of the letter of Mr. Henrikssen through T. G.

We also have no knowledge of a patent belonging to Dr. Rinse or to H. M. B., but we have asked our Holland patent agent to inform us concerning this subject.

We have discussed this situation here again and we believe that no agreement should be made without safeguarding our patent rights.

I note upon reflection that after your conversations with Dr. Raspe and Mr. Henrikssen, you will give a negative reply to H. M. B. in so far as it concerns an understanding for temporary sale.

Of course you will keep us advised as to their reaction.

Please accept, Gentlemen, my very best wishes.

(signed) RAGNAR IUELL

Exhibit 570

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.
c/o Titan Co. A/S,
FREDRIKSTAD

DV/SB

Letter No. 140

January 16, 1941.

Gentlemen,

LEAD TITANATE

We are in receipt of your letter No. 103, and we request you to note that next week we shall go to Leverkusen and there shall go over once again the question of an eventual agreement with H. M. B.

On the question of patents and eventual licenses to H. M. B., we can only adhere to your point of view and, as we have formerly written, admit that the position of Titan Co., Inc., would have been weakened if we should have concluded an agreement with H. M. B. without licensing, if it had thought of attacking the latter.

From reading an article which appeared in a Netherlands technical review, we *believe* that we understand that H. M. B. has filed a patent application in Holland. Perhaps you have had confirmation through the Patent Office at the Hague, with which you were in contact.

We have just received, dated December 27, 1940, from N.V. H.B.M. a letter whose translation runs thus:

> "Following your letter of December 19, 1940, we have informed you that we are not in a hurry in

this matter which occupies us and that we shall hold up the sale as long as a definitive contact with you has not taken place.

We certainly have been approached from different sides in so far as it concerns the sale of Lead Titanate on a commission basis, but as you pointed out already we think that in this question we should accord priority to you.

In all that concerns the study of this matter, it seems to us that an eventual agreement between us should be possible on a basis whereby you will be our sole outlet for the article, while handling our product alone.

Price risks thus are then exclusively our responsibility."

It seems, therefore, that we can let them wait a little while so far as definite response is concerned.

There is one point upon which we could not insist too much: Lead Titanate is so well considered among Dutch manufacturers that we should find it very difficult, even impossible, later to replace it by a new pigment placed on the Dutch market. At the present moment the Dutch technical reviews are running very commendatory articles on Lead Titanate and we are persuaded, after the practical results that we have observed in Holland, that this pigment will be definitely adopted as a substitute in the near future for white lead and zinc white. These reviews incorporate in the articles formulas in which Lead Titanate is advocated being mixed with titanium oxide rather than with zinc pigments. There is thus an indirect propaganda

Exhibit 570

in favor of titanium oxide and titanium White as a result of the use of Lead Titanate.

We conclude by informing you that after our conversations with Dr. Raspe and Mr. S. J. Henrikssen, we shall give H.M.B. a negative reply in so far as an understanding for a temporary sale of their pigment is concerned.

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A

Administrator - Director

(signed) J. De Vleeschouwer

Exhibit 570

TRANSLATION

Copy/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.
c/o Titan Co. A/S,
FREDRIKSTAD
DV/SB,

Letter No. 129

January 8, 1941

Gentlemen,

LEAD TITANATE

With reference to our letter No. 124 of the 6th of January last, giving you the text of the letter from Mr. S. J. HENRIKSSEN concerning Lead Titanate, we desire to rectify the supposition in so far as it concerns Dr. Rinse as "holder of a patent which H. M. B. must work for."

Dr. Rinse of Haarlem is not holder of a patent, he only went so far as to oppose patent application No. 86,431 (T. 184).

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A
Administrator - Director

(signed) J. De Vleeschouwer

c Mr. S. J. Henriksen

Exhibit 570

TRANSLATION

Copy/HL.

SOCIETE BELGE DU TITANE

Titan Co., Inc.,
c/o Titan Co., A/S.,
FREDRIKSTAD

Letter No. 124

DV/SB.

January 6, 1941.

Gentlemen,

We request you to note that correspondence with Mr. S. J. Henrikssen, the engineer, is very difficult.

Until now only one copy of a letter addressed to the firm Bert & de Keravenant came for us (addressed to you in our letter No. 118 of 12/27/40) and a letter concerning Lead Titanate of which we send you the text herein.

We can inform you that of our six letters sent at the present time to Mr. S. J. Henrikssen, only two have arrived: one treated of Lead Titanate and the other was the letter accompanying the copy of your letter No. 79 of December 2nd last. This permits you to conclude that Mr. S. J. Henrikssen knew the desired points formulated in your letter No. 79.

As for the four letters which have not arrived from Mr. S. J. Henrikssen, they did not concern anything of which you are unaware at the present time.

We have forwarded up to the present time copies of letters addressed to you and which bore the address: c/o Mr. S. J. Henrikssen.

Please accept, Gentlemen, our very best wishes.

SOCIETE BELGE DU TITANE S A
Administrator - Director
(signed) J. De Vleeschouwer

(813)

Exhibit 570

TRANSLATION

COPY

SJH/AK December 17, 1940.

Letter No. 2.

Mr. J. De Vleeschouwer
Societe Belge du Titane
61, rue Marche-aux-Herbes
Brussels, Belgium

Dear Mr. De Vleeschouwer,

Lead Titanate

I thank you for your letter (No. 5) of the 9th instant, which only came yesterday.

According to what you write me, I believe that we must proceed pretty quickly if this business is not to escape us and granting the difficulties of present communication and the delays upon which it is necessary to count, it is better to conclude an arrangement for the sale over a limited period, for example, depending upon the length of hostilities, or more than 6 to 12 months, than to seek to impose a license under our patent if H. M. B. does not wish it, and from this fact perhaps to lose all possibility of agreement as to sale. I do not construe the exchange of telegrams with M. L., however, as meaning that his consent is subordinate to the fact that the agreement envisaged is on the basis of a license, although the fact of according a license will permit us to impose stricter conditions (and obliges us to impose them, in view of our own commitments with other companies).

Exhibit 570

I am not sure as to the patent situation, but I believe that H. M. B. is connected with Dr. Rinse, who possesses a patent for which H. M. B. must be working. On the other hand, Titan Co. has just this moment filed a patent application against which Mr. Rinse has entered his opposition.

It seems reasonable to me that in case of collaboration opposition would be withdrawn. You probably could make H. M. B. understand that at the time of your next conversation, and there is only one step left—to know their point of view as to arrangement based upon license.

Arrangement for sale without license

I see three possibilities:

a) You sell as exclusive representative and take commission.

b) You purchase at a fixed price as exclusive purchaser and resell for your own account.

c) H. M. B. manufactures exclusively for your account.

In all three cases you will be the only carrier of Titanium. On the other hand, H. M. B. will ask you probably not to sell any other make of Lead Titanate. You cannot accept this demand without any conditions being made, but your must reserve the right to sell Titanium from other sources in case that:

1) The quality of H. M. B. was not satisfactory.

2) The price " " " " "

3) The production of H. M. B. was not sufficient

or in general in any case where the production of H. M. B. did not place you in a position to face eventual competition (for example, direct importation into America by consumers).

More and more in your own interests, it is not necessary to lose sight of the interests of our affiliated concerns. You cannot take up the sale anywhere but in your own territory, and it is true that during hostilities there is not a great deal of opportunity for H. M. B. to export save perhaps to Germany. In this case it is not necessary to disturb the Titangesellschaft, which you can avoid perhaps by reserving an option for T. G. in so far as that which concerns the sale for the territory of T. G. It will be advantageous to have the opinion of T. G. on this subject. A general clause could be instituted as a safeguard for all the affiliated companies in so far as their respective territories are concerned.

Among the formulas a) b) and c) listed above, I believe that a) is the least satisfactory, in each case if you are obliged to sell for the account of H. M. B. and thus to introduce their name and their brand, and it would be difficult for you to have control of the sale price (even if you have an indirect influence by virtue of the price on TiO2). Your commission ought to be rather high, notably if publicity charges for introducing the product rest on you.

The formula c) leaves you the possibility of putting TiO2 at the disposition of H. M. B., without invoicing, which makes them less interested in the price given by other dealers in Titanium and emphasizes still more your position as exclusive retailer.

Exhibit 570

Agreement on the basis of a license

In the same way I suppose in this case as well you will be the exclusive outlet and there will be a place for taking account of the considerations mentioned above. Only in contradistinction to the licensing agreement, your conditions should be much more severe. Notably all export should be forbidden to the markets of our affiliated firms (like Titangesellschaft) without their specific consent. The license should be limited to Holland. H. M. B. probably would request that it be exclusive for the duration of the agreement, to become non-exclusive afterwards. (I do not believe it possible to withdraw the license completely, even after cancellation of an eventual agreement. This is a question of law.) It should be considered whether we will request a license for the Rinse patent or others, present or future. If we bind ourselves by an exclusive license not to make Lead Titanate in Holland, H. M. B. must bind itself not to manufacture or have manufactured TiO_2.

Unfortunately I am particularly occupied these days and I cannot, at the moment, give the desired time to this question, but I have not wanted to omit advising you of the foregoing considerations, in the hope that you will receive this present one before your next conversation with H. M. B.

I am taking advantage of this occasion to wish you and your collaborators my best wishes for Christmas and the New Year.

So that there may be no mistake, I wish to mention that, until the present time, I have only received your special letter No. 5, and extend to you, dear Mr. De Vleeschouwer, my very best wishes.

(signed) S. J. HENRIKSSEN

Exhibit 571

TRANSLATION.

Fredrikstad, February 19, 1941.

RI/HL No. 144.

AIR MAIL
EXPRESS

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels.

Gentlemen,

LEAD TITANATE

We have not heard from you concerning the Lead Titanate question for some time.

On December 19, 1940, I sent to Dr. Jebsen your letter No. 93 with the attached report and copy of your letter to Dr. Raspe of December 9, as well as copy of our letters No. 92, 93, 96, and 97 to you and of our letters to T. G. No. 291 and 297 (of which you will please find a copy herewith) and 299.

We have only today received a telegram from Dr. Jebsen, the translation of which is: (Herewith enclosed is also a copy of the original text)x)

> "I hope that Mr. De Vleeschouwer has thoroughly understood that the Societe Belge cannot export lead titanate from Billiton (HMB) into the markets of associated firms without their permission, and that the Societe Belge must not aid post-war developments of Billiton in Holland and in Belgium unless Billiton gives up exportation.
>
> "The sale for Billiton for Belgium and Holland during war must be undertaken only if conditions render it extremely to be desired or imperative.

Exhibit 571

"The American market annually consumes 2000 tons of Lead Titanate compared to a sale of titanium pigments containing 10,000 tons of TiO2 and Mr. Robertson considers that the sale of Lead Titanate is going to diminsh."

We telegraphed today to T. G. asking them to inform you that we had sent a letter of this date containing information from Dr. Jebsen concerning this question.

For your information I inform you that I have sent to Dr. Jebsen on the 9th and 28th of January the other documents exchanged between you relative to this question, up to your letter No. 140 and mine No. 129.

While awaiting information from you, permit me, Gentlemen, to extend my very best wishes.

(signed) RÅGNAR IUELL

Copy to T. G. for transmission to Societe Belge du Titane.

x) added on 2nd mail copy

Exhibit 572

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Brussels, February 24, 1941

Mr. R. Iuell
c/o Titan Co., Inc.,
Titan Co. A/S,
FREDRIKSTAD

Letter No. 172

Express—Registered

Dear Mr. Iuell,

LEAD TITANATE

We have just had indirect communication from T.G. that you have forwarded us a letter from Dr. Jebsen relative to the question under the above heading.

This letter not yet having reached us, we expect it any minute.

Mr. Henrikssen, whom we have questioned, would like you to ask Mr. Jebsen the following two questions:

1) Is there any disadvantage in T.G. beginning to manufacture Lead Titanate temporily? (We have already written you on this subject, see our letter No. 165 of 2/14/1941.)

2) Whether or not you (Dr. Jebsen) object to the Societe Belge du Titane coming to terms with Hollandsche Metallurgische Bedrijven, Arnhem, for the sale of its Lead Titanate without question of granting a license, but on the condition that Dr. Rinse (probably the

Exhibit 572

dummy of H.M.B.) withdraw his objection to the patent application No. 86,431 (T. 184)?

So far we are concerned, we have come around to your arguments and we await the letter of Dr. Jebsen in order to answer Hollandsche Metallurgische Bedrijven finally and definitely.

The second question suggested by Mr. Henrikssen should in his judgment be put to Dr. Jebsen, in order that we be convinced that he is well informed of the request that we have made previously; namely: is not the agreement with H.M.B. preferable for the time being, even without grant of license, in order to avoid disturbances in our Netherlands market.

Waiting to hear from you, we extend to you, dear Mr. Juell, our best wishes.

SOCIETE BELGE DU TITANE S A
Administrator-Director

(signed) J. De Vleeschouwer

Exhibit 573

TRANSLATION

COPY/HL

SOCIETE BELGE DU TITANE

Titan Co., Inc.,
c/o Titan Co. A/S,
FREDRIKSTAD, Norway
DV/HP

Brussels, February 26, 1941

Letter no. 177

Attention of Mr. R. Iuell

Gentlemen,

LEAD TITANATE

In receipt of your letter No. 144 of the 19th (of this month), we have the privilege of informing you that we have nothing special to communicate concerning the progress of our transactions with H.M.B.

As the above have written us they are in no hurry to receive our reply, we await.

The subject of the telegram sent by Dr. Jebsen conveys to us advice that we certainly should have followed in case of an agreement.

We have written you previously (our letter No. 162) that the engineer Ebbinge, employed previously by N. & v.d.L. had been engaged by H.M.B. — There was evidently an additional reason for us to be on our guard and it is to be presumed that sooner or later this firm, allied with Billiton Company, will begin itself to manufacture titanium oxide.

In conclusion we will say to you then that we will answer in the negative to H.M.B. when we consider that it is advantageous to do so.

Please accept, Gentlemen, our best wishes.

(signed) J. De Vleeschouwer

Exhibit 574

TRANSLATION

Fredrikstad, March 12, 1941.

RI/HL—No. 166 *Via Airmail*

Express

Societe Belge du Titane,
61, rue Marche-aux-Herbes,
Brussels

Gentlemen,

Lead Titanate

Confirming my letter No. 165 of yesterday, I am informing you that we have today receive a telegram from the United States according to which their (Dr. Jebsen) opinion is that an arrangement with Bil. has not actually been made, either with or without license, except some regular sales to Bil. of our products of titanium if they so desire.

I send you herewith copy of the telegram in question and inform you at the same time that we have telegraphed to T. G. to tell you that our two letters Nos. 165 and 166 are en-route.

Mr. Ravnestad has communicated with our agents in Holland, Nederlandsch Octreeibureau (Mr. Elgersma), who are of the opinion that we will have our patent in the month of May. They tell us also that Bil. have established a procedure of manufacture of titanium pigments, but we do not know if that is for the manufacture of lead titanate only or also for other pigments. You will write us no doubt if you get some information on this subject.

While awaiting your information I extend to you, Gentlemen, my best wishes.

Att. (signed) RAGNAR IUELL

Exhibit 575

March 12th 1941.

RI/HL—No. B 10

By air mail

Titan Company Inc,
111, Broadway,
New York, N. Y., U. S. A.

Attention: Dr. G. Jebsen

Dear Sirs,

LEAD TITANATE

We duly received your telegram of February 18th as per enclosed copy, which we transmitted to Société Belge (see enclosed copy of our letter No. 144 of February 19th). In the meantime Société Belge had sent us a letter No. 172 of February 24th of which I beg to enclose a copy herewith. In order to avoid any possibility of misunderstanding we telegraphed you on March 7th as per enclosed copy and have now received your telegram of March 12th reading as follows:

"AGREE NO ARRANGEMENT WITH
"BILLETON SHOULD BE MADE
"PRESENTLY WITH OR WITHOUT
"LICENCE EXCEPT REGULAR SALES
"OF TITANIUM PRODUCT IF DESIRED

We take it that the latter part of the telegram means that Société Belge can make regular deliveries to Billiton of our usual titanium pigments if Billiton so desire. We have communicated contents of this telegram to Société Belge (see copy of our today's letter No 166) and I will let you know if anything further transpires.

Exhibit 575

In the meantime we had received Société Belge's letter No 177 of February 26th (see enclosed copy) and yesterday also your letter of February 18th confirming the previously mentioned telegram. We have also given Mr. De Vleeschouwer a copy of this last mentioned letter.

Yours very truly

RAGNAR IUELL.

Encl.

Exhibit 575

COPY

Dr. G. Jebsen
c/o National Lead Company
New York.

Our telegram March 7th 1941.

HENRIKSSEN VLEESCHOUWER ENQUIRE WOULD YOU NEED CASE OBJECT TO VLEESCHOUWER MAKING ARRANGEMENT BILLITON FOR SALE THEIR LEADTITANATE WITHOUT OUR GRANTING BILLITON LICENSE STOP BILLITON SEEM TO OBJECT TO ARRANGEMENT WITH LICENSE FROM US STOP ELGERSMA RECKONS WITH PATENT BEING GRANTED IN MAY STOP HE INFORMS US THAT BILLITON HAVE PLANNED PROCEDURE FOR MANFACTURE TITANIUM PIGMENTS BUT WE DON'T KNOW WHETHER THIS IS ONLY FOR LEADTITANATE OR ALSO FOR OTHER PIGMENTS STOP WE CONSIDER NO ARRANGEMENT SHOULD BE MADE PRESENTLY WITH OR WITHOUT LICENSE—Titanco

Exhibit 576

RCA RADIOGRAM

R. C. A. COMMUNICATIONS, INC.

Received at 64 Broad Street, New York, at
Mar 8 1941 Standard Time

DGGMZ 7285
FREDRIKSTAD 87 1/50 7 1715
NLT JEBSEN LEADCO NEWYORK

HENRIKSSEN VLEESCHOUWER ENQUIRE
WOULD YOU NEED CASE OBJECT TO
VLEESCHOUWER MAKING ARRANGEMENT
BILLITON FOR SALE THEIR LEADTITANATE
WITHOUT OUR GRANTING BILLITON LICENSE
STOP BILLITON SEEM TO OBJECT TO
ARRANGEMENT WITH LICENCE FROM US
STOP ELGERSMA RECKONS WITH PATENT
BEING GRANTED IN MAY STOP
HE INFORMS US THAT

Exhibit 576

RCA RADIOGRAM

R. C. A. COMMUNICATIONS, INC.

Received at 64 Broad Street, New York, at

Standard Time

DGGMZ 7285
NLT JEBSEN P2/37

BILLITON HAVE PLANNED PROCEDURE FOR MANUFACTURE TITANIUM PIGMENTS BUT WE DONT KNOW WHETHER THIS IS ONLY FOR LEADTITANATE OR ALSO FOR OTHER PIGMENTS STOP WE CONSIDER NO ARRANGEMENTS SHOULD BE MADE PRESENTLYWITH OR WITHOUT LICENCE

TITANCO

Exhibit 576a.

EXTRACTS FROM REPORT TO THE BOARD OF TITAN COMPANY INC. FOR 1938 OF G. JEBSEN

P. 13 . . . "In Holland and Belgium we had during the winter 1937–1938 as a matter of policy to give the Blumenfeld group a few customers, as his deliveries there amounted only to about 11% compared with his quota of 30% * * *"

P. 14 . . . "The Japanese market has taken 263 tons in the first six months 1938 against 570 tons in 1937. Since July Titan Kogyō Kaisha has supplied their own product"

Competition in Titanium Products (Pgs. 23, 24, 25)

There has been a certain number of offers of Titanium pigments from unknown sources—by a few merchants. The Titanium Division of National Lead Company has kindly sent us information re the export from U.S.A., the sources of which are partly unknown. The quantities are relatively small.

Noury and Van der Lande, Holland

This firm started a more active propaganda in May 1938. Through the Blumenfeld Group we were informed that they intended to erect a large factory and would arrange for protection of the Dutch market but were willing to refrain from this if we would let them have a quota of our sales.

From other sources we got though information indicating strongly that they have found the Titanium manufacture more difficult than expected. The firm is important

Exhibit 576a

and financially strong. It has though the reputation by bluffing to obtain a position or a payment for their nuisance value. Some of our most important customers in Holland have expressed themselves in opposition to a small domestic manufacture because of the possible protection and consequent increase in prices.

After careful consideration with the Germans it was agreed rather to fight them. Our British friends were also in favour of this.

An arrangement with them would be an invitation to others to try the same and also encourage Montecatini in their policy.

Early in May we reduced the prices in Holland generally with 10% for TiO_2 pigments, and Sté. Belge du Titane have been authorized to go further down with the prices in special cases when necessary. This has been done toward some customers.

A large number of our Dutch customers received offers of Noury and Van der Lande's TiO_2 pigment. The product has improved in colour but the oil absorption is high, 35,7% and the tinting strength relatively low.

Noury and Van de Lande have had to admit on several occasions that they were not in a position to deliver a quality suitable for Paints and Enamels.

We have the impression that the pigment has been adopted more easily in the Paper and Rubber industries and we, as well as Thann, have lost orders to these industries.

The total sales of Noury and Van der Lande in Holland and Belgium are estimated by Mr. de Vleeschouwer, managing director of Sté. Belge du Titane, though, at only abt. 15 tons in 1938.

In the autumn advertisements were observed in English, German, French and Belgian periodicals.

Exhibit 576a

Greeff & Co. arranged for an order of a small lot through a customer, but delivery did not materialize.

In Sweden and Norway Noury and Van der Lande's pigment has been offered through a firm in Hamburg (Benzian & Co.) and probably also by Falso-Products, Antwerp, at abt. 10% lower than Titan Co. A/S' prices. In Germany were offered 20 tons RM 90,—per 100 Kgs. and 5 tons were probably purchased.

According to our investigations the sales of their TiO_2 outside Holland in 1938 hardly exceed 10 tons.

The production is undertaken in Leventer in a relatively small building near their other factories and is probably more in the nature of a pilot plant than a factory.

Laporte.

It will be remembered that British Titan Products Co. Ltd. have a price agreement with Laporte. This works well and the relations are friendly.

New Competition. (Pg. 26)

Information is received from time to time of rumours of new firms experimenting with Titanium and studying the possibilities of a manufacture. Amongst these are important firms like Hollandische Metallurgische Bedrijven, Arnhem, which also has a factory in the Dutch Indies "Billiton Maatschappij". "Mines d'Or de Kilo Moto", in cooperation with La Metallurgie d'Hoboken, is taking "Sable noir" from Belgian Congo extracting small amounts of gold. The ilmenite is magnetically separated and said to contain 20 to 25% TiO_2. Samples of a TiO_2 of bad colour have been sent to electrode manufacturers and said to be satisfactory.

Exhibit 576b

REPORT TO THE BOARD OF TITAN COMPANY INC.
FOR 1939

Pg. 2 . . . "From Norway, contact was kept with the companies to the extent that was possible. We were informed—as it was to be expected—by the British Titan Products Company and Titangesellschaft, that they were not in the position to give us any information as to the business and technical developments in view of the war regulations. Correspondence was though kept up concerning patents and regular commercial transactions and a certain amount of information has also later been received.

Pg. 16 . . . "Mr. Henrikssen visited Paris and London in November and during his visit several meetings with Ste. Thann and Mulhouse took place. It was agreed that the convention should be considered terminated as per September 1st and accounts for quota and compensation be settled for the eight months as regards France, Belgium and Holland. The intention was expressed on both sides to continue cooperation in the same spirit as previously and as far as possible respect the quota's of the various markets.

Mr. Blumenfeld expressed his willingness to supply material to Ste. Ind. du Titane to the extent he was able to do so in order to help the company to maintain a position in the market. The price to be the market selling price less a rebate, which presumably would have covered the company's total expenses by somewhat reduced sales.

Due to surplus deliveries in France, Ste. Thann et Mulhouse owed a cash compensation to Ste. Ind. du Titane. This was accounted for at the same time in the settlement between Titan Company Inc. and Thann et Mulhouse, Titan Company Inc. undertaking to pay Ste. Ind. du Titane."

Exhibit 576b

Pg. 17 . . . "About three years ago the situation in France was discussed with Mr. Cornish and Mr. Beschorman during my visit in New York, and it was considered advisable to have in view a cooperation with a domestic French firm for the erection of a plant and the further development of the industry in France. It was feared that otherwise we would lose a considerable part of our proportion of the French market to the domestic manufacturer. Ste. Thann et Mulhouse were not considered desirable partners. Etabl. Kuhlmann, the most important French chemical company of old high standing, was considered to be presumably the best partner. I had already been in contact with them regarding the Titanium industry and it was recommended that I should renew the contact. This was done and the managing director, Mr. Berr, declared that they were interested to take up the matter when we considered the time ripe.

The contact has been maintained but conditions in France have not invited to start an industrial enterprise.

During the very difficult conditions last winter in France, Mr. Gilbert and Mr. Henrikssen thought it advisable in November to see Mr. Berr and talk over the situation. Mr. Berr was very interested. It was agreed that conditions made it impossible to consider a manufacture in France during the war, but pointed out that after the war, they and others would no doubt have a surplus manufacturing capacity for Sulphuric Acid and that it would be very interesting at that time to consider the question. When I was in Paris I saw again Mr. Berr and talked the matter over with him, on the same lines, without undertaking any definite obligations. Although this being the case, it seems to me the matter should be put on record once before the

Exhibit 576b

board, as these repeated conversations involves us in a certain moral obligation towards Etabl. Kuhlman."

Pg. 20 . . . "The extension to a capacity of 15000 tons TiO_2 production was practically completed before the war broke out.

With regard to the manufacture and sales of the company, we have no specific information, but generally we are informed that the manufacture has continued without any serious obstacles and that in 1939 sales have been good.

The company has taken ca 35000 tons Ilmenite from Norway, during 1939, which should be some in excess of their consumption. Certain reserves were provided for in 1938. Deliveries in the first quarter of 1940 were only ca 3300 tons and in April and the greater part of May, presumably none. In June deliveries were resumed.

Considerable efforts were made by the research department up to July of 1939 to improve the colour of Rutiox without sufficient satisfactory results.

In the latter part of July we were informed that all was well.

On November 30th and December 1st, 1939, I met Dr. Kuhne, Dr. Brugemann, Dr. Raspe and Mr. Borgwardt in Copenhagen and was informed that although they were not in the position to let us have information of their activities, they would keep records so that when the war was finished, I could see everything which had been done. They also expressed the desire that relations and the international cooperation should be as far as possible resumed after the war on the same bases as before—in which I joined."

Exhibit 577

Letterhead of

TITAN COMPANY, INC.

No. 32

Paris, November 13th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re minutes of Board Meeting Sept. 29th, 138 (b) and (c)—my letter to you No. 18 of October 10.

I enclose, for your information, copy of a letter from Mr. Tasker of October 14 and my answer of October 26. Further, a letter from B.T.P. of October 2 and my answer of October 26.

The matter will be dealt with in the next board meeting. In the meantime both Major Barley and Mr. Tasker have accepted my proposal. Tasker thought we had acted very liberally regarding the allocation of quantities—which in fact we have, from the point of view of B.T.P.'s position, but it does not look as if Titangesellschaft's and our markets will need more than reserved for us.

Exhibit 527

Dr. Kühne's attitude, mentioned in the last part of my letter of October 10, was partly due to a fear that B.T.P. might force their sales by reducing prices in order to develop the market for the new factory. I told him this was not intended and we would never allow such a policy at the cost of Titangesellschaft's interests.

Contrary to general reputation, the English point of view has been—to say the least—considerably less broad-minded than the German, but I hope with time they will learn to change.

I told Mr. Thompson that; with the very good earnings B.T.P. had on the sales of the products from Leverkusen, I had expected a more liberal attitude. Mr. Thompson considered that the earnings of B.T.P. had nothing to do with the legal position. On my answer that we then will have to deal with other questions also from a legal point of view, Mr. Thompson wished to study what was most advantageous to B.T.P. However, when he heard that Major Barley and Mr. Tasker had accepted, he said he would not raise any opposition.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—I also enclose copy of another letter to Mr. Tasker of October 26, for your information. You will note that my suggestions have been embodied in the last draft of the minutes.

Exhibit 578

Letterhead of

TITAN COMPANY, INC.

Paris, October 3rd, 1936.

William C. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

STRICTLY PERSONAL—CONFIDENTIAL

Dear Mr. Beschorman,

I much appreciate your letter of September 15th with enclosures.

During my visit to London for the B. T. P. Board Meeting on September 25th, Tasker mentioned to me that Robinson had sent Barley a list of questions to be made to the lawyer of the British Titan Products Company, which Barley had returned with his comments.

Since then, nothing more has happened.

The matter is now in Robinson's hands, as the Board agreed to his suggestion to ask our lawyer's opinion.

It seemed to be in Tasker's mind that Robinson may not pursue the matter further and the question be dropped, as Barley was not inclined to do anything more. Robinson was, though, last week in a nursing home after an operation of the throat which has passed well.

On a remark from me, Tasker mentioned that although Robinson during the July Meeting directed his talk to you, it was really meant for the I. C. I. This coordinates with the correspondence enclosed in your letter.

Exhibit 578

May I, by the way, just make a remark concerning the third paragraph in your letter of August 25th, where you say that "clause 11 is part of the agreement for cooperation between our three British partners and Titanic in the British Empire and . . . ", specifying the territory of B. T. P.

This does not quite give the full picture, as the British partners towards Titan Company Inc. have undertaken obligations regarding the whole world by obliging themselves to refrain from manufacturing and sales activities outside the British Titan, with the specified exceptions.

I mention this particularly because of the following incident during our negotiations:

You may know that I. C. I. was rather reluctant in accepting obligations re the territories outside of the British Titan Products Company's, with the argument that it was difficult to combine this with their obligations towards Dupont, regarding which a solution finally was found. Mr. W. S. R. heard of this and offered to take it up with Sir Harry McGowan whom he should meet incidentally, if I would present him the case in a few lines. I did so, using the following words:

"National Lead Co. and I. G. Farbenindustrie have "arrangements covering *the whole world* dealing with all "*Titanium compounds.*

"I. S. C. and Goodlass Wall are willing to co-operate "on such basis, but I. C. I. only regarding *Titanium pig-"ments.*

"I. G. I. reserve to be free for other Titanium com-"pounds, these representing future developments of un-"known nature and because of commitments to other "companies.

Exhibit 578

"Major Barley considers the reservation to be of an "academic nature.

"Can I. C. I. not join us wholeheartedly with reserva- "tion only as to present commitments and undertake to "endeavour to have these commitments cancelled?"

As no obligation is imposed on Titan Company Inc. and its licensees as to choosing their partners outside B. T. P.'s territory, it seems surprising that they should not be able to choose any of their British associates directly or indirectly.

With kindest regards,

Yours very truly,

G. JEBSEN

I take it from my conversation with Tasker that Barley after consulting I. C. I.'s legal department have found no basis for W. S. R.'s point of view.

Exhibit 579

TITAN COMPANY, INC.
7 West 10th Street
Wilmington, Delaware U.S.A.

No. 23 *Confidential*

G. Jebsen
Vice President
ADDRESS FOR CORRESPONDENCE
26 Rue De La Pepiniere
Paris 8 — France
Cable Address c/o Socititane

Sept. 30, 1937

GJ/AK
William G. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A,

Dear Mr. Beschorman,

When last in London, Tasker told me of W. S. Robinson's latest suggestion to him with regard to shareholdings in B. T. P. and that he had written you about it. He expected you would send me a copy of your answer, and I should appreciate to have your reaction.

With regard to the difficulties caused by Walpamur's recruitment of I.C.I.'s competitive activities through "Nobel Finishes", Major Barley wrote me before the last Board Meeting, that the matter was given a good deal of consideration in the I.C.I. and that the whole question may change for the better leaving the recent experience as a

passing phase. He sincerely hoped so and suggested that no vital discussions should take place at this stage.

W. S. Robinson was not present at the meeting and the question was only slightly touched upon.

Tasker had had a talk with Mr. Quiggs of Nobel Finishes, who meant that it would be better for I.C.I. to retire from B.T.P. Barley had said that if necessary they would have to do so, but, as you no doubt are aware, he will certainly not like such a step.

I told Tasker that I thought we should await developments in this matter and give I.C.I. time to develop their own mind. They will presumably be up against this question also in other cases and will have to decide on a definite line of policy. We were both in agreement that I.C.I.'s contributions to the B.T.P. are so valuable that it would be a very serious matter if they should withdraw, and we will have to see pretty clearly whether the consequences of the policy of the I.C.I. will be of a serious nature to B.T.P. or not.

I told Mr. Wilkins that I.G. Farbenindustrie has been up against the same question some years ago and in certain matters found it to their advantage to retire from certain activities in view of the animosity which it caused amongst their own customers.

Mr. Wilkins seemed to think that time would heal the matter and it would be an incident of passing nature.

With kindest regards,

Yours very truly,

s/ G. JEBSEN

P. S. — You probably know that I.C.I. has taken over DuPont's interests in Nobel Finishes.

Exhibit 580

COPY

H. S. Tasker

London House
8, New London Street
London, E. C. 3,

PERSONAL AND CONFIDENTIAL

14th October, 1937

W. C. Beschorman, Esq.
The National Lead Company
111 Broadway, New York.

Dear Mr. Beschorman:

I am writing to bring you up to date on the W.S.R. position, although I expect you have probably heard from Jebsen also on the subject.

Shortly after I last wrote to you I received a letter from him asking whether I had thought over his conversation and what were our views.

I replied to the effect that we were not willing to give up our connection with B.T.P. and that we thought that our connection with it was not detrimental to the Company but rather beneficial.

I also said that I had never gathered from you that you had any wish that the English partners should withdraw and I said that I thought that this applied equally to the position of the I.C.I., even in spite of the present temporary difficulties. I finished up by saying that I believed, therefore, that I expressed your sentiments also in hoping that he would not go any further with the idea of withdrawing on his part.

Exhibit 580

In his reply he merely sent a few lines to the effect that his point would be met if Mr. Thompson, as Sales Agent, would report officially that the company was not being prejudiced by the activities of any of the English shareholders.

To this I replied equally briefly to the effect that, as Mr. Thompson had already in his report drawn attention to the difficulties that had arisen over Walpamur, I did not think that he would be able to make any statement that would add to the facts as already known.

W.S.R. has at no time made any attempt to have a talk on the subject or to raise the question with the I.C.I. direct. I have kept in close touch with Barley and Jebsen throughout and will, of course, continue to do so.

Quig, of Nobel Chemical Finishes, is definitely going to see Mellor and I think I have persuaded Barley also to see Mellor separately to discuss the wider issues with him.

With kind regards,

Yours sincerely,

(signed) H. S. TASKER

Exhibit 581

Letterhead of

NATIONAL LEAD COMPANY

SUBJECT Lead Titanium Frit—Goodlass-Wall Development
DATE June 24th, 1938
TO Mr. Fletcher W. Rockwell—President
FROM Mr. C. F. Kaegebehn—Patent Department
IN REPLY TO

Dear Mr. Rockwell:—

We have not yet been able to obtain any advice concerning whether or not lead oxide, titanium dioxide silica frits, as described in the Goodlass-Wall application, will have any value to National Lead Company.

At Mr. Garesché's suggestion, we are writing to Mr. Oscar Schaeffer of our Pittsburgh branch, who, I am informed, is in close touch with the ceramic industry

We have received a copy of Mr. Stewart's letter to Mr. Sidford of June 17th, wherein he discusses the Goodlass-Wall application. Mr. Stewart points out that lead oxide, titanium dioxide and silica containing frits are in use, calling attention to the work of Dr. J. H. Koenig of the United States Potters Association. However, he calls attention to the fact that the frit disclosed by Dr. Koenig contains less lead oxide than the frit claimed in the Goodlass-Wall application, and doubts whether or not a U. S. patent could be obtained. This is a difficult question but will probably depend upon whether Goodlass-Wall can show any improved result due to the higher lead content not deductible from the composition published by Dr. Koenig.

The different marketing conditions which prevail here and in Great Britain are such, that an evaluation of the

Goodlass-Wall development from the point of view of how the National Lead Company would benefit, cannot be made at this time. Therefore, it appears that the most convenient way of handling this situation would be the following:

National Lead Company should obtain an exclusive license under any patent which Goodlass-Wall may acquire, which is in accord with the agreements existing at present. We might then inform Goodlass-Wall that, inasmuch as we cannot evaluate in advance the benefit to be derived by the purely lead interests of the National Lead Company, we cannot enter any advance arrangements regarding royalties, etc., but we would be quite ready to consider such arrangements, if and when the development proved of interest to the National Lead Company. Of course, Goodlass-Wall may point out that by giving us an exclusive license the whole development may become dormant if we lose interest. In reply to this we might assure Goodlass-Wall that we would thoroughly investigate the question, and that, if we came to the conclusion that the National Lead Company could not improve its sales of litharge thefeby, we could renounce to the exclusive license, and thereby give Goodlass-Wall the opportunity of disposing of rights elsewhere. So to do should not prove embarrassing to the Titanium Division, because the development of this frit will open up new outlets for titanium dioxide, and if Goodlass-Wall were permitted to license others, arrangements might be made so that the licensees would purchase their titanium dioxide from us.

I have sent a copy of this memo. to Dr. Jebsen.

Yours very truly,

CFK:JL C. F. KAEGEBEHN

Exhibit 582

Letterhead of

GOODLASS WALL AND LEAD INDUSTRIES LIMITED

11th July, 1939.

Charles F. Kaegebehn, Esq.,
Manager, Patent Department,
National Lead Co.,
111 Broadway, New York.

Dear Mr. Kaegebehn,

May I thank you for your two letters of the 2nd inst. written from Paris. May I also say how much we enjoyed meeting you in London and that we hope Mrs. Kaegebehn and yourself had a good time in Paris and will return to America with happy memories of your European visit.

READ *versus* DEYRUP
Interference Case No. 76082. Lead Titanium Frit.

We fully appreciate the point you make in regard to the delay of the assignment of this case to you, and will be advised by you as and when and if you feel that any change in the present position in regard to assignment is desirable.

May I also say how much we appreciate the kindly gesture outline in paragraph 4 of your letter in respect to our company benefitting from sales of Litharge if the Lead Titanium Frit proves to be a commercial success.

Patent Collaboration

Your letter of the 2nd makes a suggestion to which I am sure our company will give very serious thought in

order to still further cement the arrangement for technical co-operation between the National Lead Co. and ourselves, and I propose to discuss this matter with Mr. Tasker as soon as possible to work out what we would consider a "field of mutual interest" in which the two companies might co-operate in respect of patent applications. This is rather a happy extension of the idea of co-operation which, as you may know, was arranged with Mr. Beschorman by Mr. Tasker some three years ago, and I would suggest that you equally might discuss with Mr. Rockwell the area to be covered by the "field of mutual interest", and I will ask Mr. Tasker to write to Mr. Rockwell on the subject so that an arrangement can be put on to a proper working basis.

Yours sincerely

C. A. KLEIN

Exhibit 583

Letterhead of
H. S. TASKER.

HST/MS 15 January 1941.

Dr. G. Jebsen,
The National Lead Co. Ltd.,
111 Broadway, New York.

My dear Jebsen,

Titanium Manufacture in Australia.

For several good reasons we have decided that the time has now come when British Titan Products Ltd. must erect a plant in Australia to supply the market that they have developed there. Active investigations are now being completed to enable us to make a final decisions as to the location of the plant.

An issue has now been raised on which, before taking a decision, I feel the Board ought to have your views.

In view of the presence of our Chairman, Mr. W. S. Robinson, in Australia, our agents, I.C.I. ANZ. on whom the work of investigation has chiefly fallen, have made contact with him and the question arose whether any useful practical co-operation could take place between British Titan Products Ltd. and the Electrolytic Zinc Co. of Australia, which company is now arranging to make Lithopone in Australia. This question is being examined. I have explained to Mr. L. B. Robinson as a preliminary to a Board discussion that we should almost certainly not wish to take the sales out of the hands of our existing agents who have done a great deal of development work in the market, and that as Works management and laboratory work is rather highly specialised, the advantages of contiguous factories would probably be confined to the sharing of the cost of factory

Exhibit 533.

administration and the possible erection of a joint acid plant. We have not yet got the final recommendations from Australia on the question of site and no decision has yet been taken.

It now appears, however, that Mr. W. S. Robinson has a wider suggestion in mind and he has cabled Mr. L. B. Robinson saying that irrespective of the site of the plant the Australian interests (which, I understand means the Electrolytic Zinc Co.) desire a reasonable participation in the Titanium Co. Following this, Stopford and I had a talk over lunch with Mr. L. B. Robinson last Friday.

This suggestion has come as a bit of a bombshell to us as although Mr. W. S. Robinson has always been anxious for a link between the Lead, Lithopone, Zinc Oxide, and Titanium interests, I have regarded the constitution of British Titan Products Ltd. as providing this link and have considered that a factory owned by B. T. P. Ltd. in Australia would thus already express this co-operation without the necessity of the entry of other interests.

It would also, of course, be advantageous to the Australian Titanium factory to have a connection with influential Australian interests, but here again, I must say that I have assumed that this would be the almost automatic result of the position of Mr. Robinson as Chairman and the interest of his Group in British Titan Products Ltd.

If I try to examine the proposal purely from the point of view of the Titanium Company I see one disadvantage. The composition of the B. T. P. Ltd. does not provide a really mutual relationship in that the Lead and Zinc Pigment interests sit at the inner councils of the Titanium Company while the Titanium interests proper—e.g. yourself—do not have a corresponding insight into matters connected with Lead and Zinc Pigments. This was unavoid-

able under the circumstances, but I personally feel it would be a mistake to repeat the anomaly in Australia. That is my conclusion if I consider, as I ought to do, Titanium interests alone. Looking at the matter from my own point of view I feel this. I have myself devoted a great deal of time and trouble to the affairs of British Titan Products Ltd. This was a state of affairs I did not seek but the net result has been out of all proportion to the interest of my Company in British Titan Product Ltd. An appreciable proportion of my own work has from time to time been devoted to the Australian market, particularly when the two Tariff enquiries were being held and when the existing Titanium Company in Australia was being bought out. I should certainly feel great dissatisfaction if, in the face of these facts, the interest of my own Company in the Australian Titanium market were to suffer a reduction.

It must be remembered that manufacture in Australia will mean loss of production and profit to the British Company and I do not see how the shareholders in the latter can face this loss without retaining their full share of the lesser advantage of local manufacture in Australia.

I do not yet know what the views of the I. C. I. will be. I am writing to Mr. Oliver Wilkins and as soon as I hear from him I will let you know.

Meanwhile I understand that Mr. W. S. Robinson is leaving Australia for the United States by air on January 17th. He may, therefore, be with you for a discussion on the matter at about the time you receive this letter.

In any case I shall hope to receive your views in due course so as to put them before the Board of British Titan Products Co. Ltd., we are meeting next on February 19th.

I am sending a copy of this letter to Mr. L. B. Robinson.

Yours sincerely,

H. S. TASKER

Exhibit 584

Letterhead of

H. S. TASKER

HST/MS 15th January, 1941.

Dr. G. Jebsen,
The National Lead Co. Ltd.,
111 Broadway, New York.

My dear Jebsen,

This is a personal note to supplement the fuller letter that I have written about the Australian Titanium plant.

I sincerely trust that you and your friends will find a way of inducing W. S. Robinson to drop his suggestion.

I want you to know that they have put forward the point that the Electrolytic Zinc Co. and the Imperial Smelting Corporation are two entirely separate companies with no interest in each other and that this initiation comes from the Electrolytic Zinc Co. It was even hinted that the Electrolytic Zinc Co. would consider manufacturing Titanium independently if they do not get a share in our Company. I must leave you to draw your own conclusions on this. I am trying to find out what the real relationship is but we can be quite certain that W. S. Robinson is common to both Companies and I cannot believe that the threat would be carried out. I am surprised that it has been made.

We suggested to L. B. Robinson that we could form an Australian Company with the same shareholders and the same holdings as the British Company except that the Electrolytic Zinc Co. would take the place of the I. S. C. He answered that whatever the Electrolytic Zinc Co. got,

the I. S. C. would want their share in view of past history, etc.

I don't know whether the American shareholders will wish to placate W. S. Robinson, but if they do, I hope they will suggest some way of doing so that does not involve reducing the share in the Australian Company that will be held by the British Shareholders of British Titan Products Co. Ltd.

Yours sincerely,

H. S. TASKER

Exhibit 585

Letterhead of
R. W. GREEFF & CO. LTD.

London, E.C.4. 17th January 1941.
In your reply please refer to IR/AJT

Mr. F. W. Rockwell,
President,
The National Lead Company,
111, Broadway.
New York.
U.S.A.

Confidential.

Dear Mr. Rockwell,

Mr. Stopford came over and dined with me at Bishop's Stortford to talk about aspects of the proposed Australian factory of British Titan Products Co., Ltd.

He informed me that Mr. Tasker and he had lunched with Mr. L. B. Robinson and it was clear that Mr. W. S. Robinson, who at that time was in Australia, was openly asking that a share in any Australian Titanium venture should be given to the Electrolytic Zinc or some other company in Australia controlled by the zinc and lead group out there. He further told me that Mr. W. S. Robinson was leaving Australia for America by air on January 17th and he asked me to formulate my own views on the question and to communicate with you.

I cabled you as follows:—

"Confidential for your information Stopford informs me Robinson asking for larger capital holding in proposed Australian factory and Australian Titanium busi-

Exhibit 585

ness which is unacceptable to the other English shareholders stop. They expect he will personally press you to acquiesce in his demands and they urge that the present relative interests shall remain unchanged stop My personal opinion is that the factory in Australia shall belong to BTP as at present constituted stop Contribution of Robinson to success of BTP has not exceeded that of other members stop My personal view is goodwill value of Australian business between 100,000 and 200,000 English pounds based upon estimated profit for 1941 of 30,000 pounds upon exports from Billingham Such profit may be reduced to half owing to extra manufacturing costs when we start manufacture in Australia stop I fear Billingham overheads may increase due to loss Australian tonnage stop Proposals for joint ownership of sulphuric acid factory or other joint working with other pigment manufacturers can be considered on their merits and might be desirable"

and I hope and believe that this put the situation before you sufficiently clearly for you to enable you to deal with any appeal which Mr. W. S. Robinson may make.

As things stand at the present time Mr. Robinson will derive his benefit from the Australian factory through the proportion that he holds of the British controlled shares. The British would not be prepared to surrender any portion of their holding to him and they do not recognize any claim on his part that he has rendered special services to the Company. In fact the National Smelting Corporation and Mr. Robinson have had less to do with the management of the Company and they devote less time and attention to its affairs than any of the above members and al-

Exhibit 585

though Mr. Robinson is Chairman he is so often absent or otherwise engaged that Mr. Tasker is almost always in the Chair, and devotes a good deal of time to the affairs of the Company.

I thought you might be interested to have an estimated figure—it is my own estimate—of what the value of the Australian business is. It has developed well and I have every reason for thinking that unless we are prevented by political conditions we shall ship 1200 tons during 1941 and that this will bring in a profit to British Titan Products Co., Ltd. of £30,000 (English). Whilst we have come to the clear decision that it will be necessary to manufacture in Australia in order to preserve this business we do not lose sight of the fact that manufacturing costs over there will be much higher than here, and also that the withdrawal of 1200 tons from our manufacture here is almost certain to increase our overheads unless we should have increased business in other directions.

In capitalising such an interest as we have in this Australian business at the present time I believe that we should not consider it more favourable than on a 12 or 15% basis and as a rough estimate I consider therefore that the goodwill value might be treated approximately as £200,000 (English) on the basis of the profit made in this country and might be as low as £100,000 (English) in respect to an Australian factory.

The thing that is obvious is that supposing there were any upset to the present ratio of interests that such would have to be bought and could not be a gift. If the structure of British Titan Products Co., Ltd. were followed it would mean that a figure of £100,000 (English) to £200,000 (English) would have to be paid by an Australian company

Exhibit 585

for goodwill quite apart from the capital that was put up for the erection of the factory and for working the business.

There is a consideration which has entered my mind and that is that if anybody were prepared to purchase from BTP the goodwill in the Australian company for cash that such cash would not be subject to British taxation but I think that such a transaction is unlikely to occur and further it would no doubt need the permission of the Australian Government which might be difficult to obtain. All things considered it is my personal opinion, as stated in the cable, that the factory in Australia shall belong to British Titan Products Co., Ltd. as at present constituted and that the interest in it shall be derived by all parties from their interest in the English Company of British Titan Products Co., Ltd.

The idea that the Electrolytic zinc or other Australian company and the factory to be installed by B.T.P. in Australia might co-operate even to the extent of joint ownership of sulphuric acid plant and in any other mutually helpful considerations has been mooted and I believe our British colleagues would rather welcome such arrangement on a fair basis and after expert examination.

I note with interest that Sir Clive Baillieu — a distinguished Australian — who has been a close associate of Mr. W. S. Robinson for many years, has been appointed head of the British Purchasing Commission in the United States. I do not think, however, that his position and influence should affect the policy. You may have heard that Mr. L. B. Robinson has been made Joint Managing Director of the National Smelting Corporation.

Exhibit 585

I am sending this letter by air but on the information given to me you have been approached before it can arrive and I thought it well to cable at length.

With every good wish for the year upon which we have entered, and cordial personal regards,

Yours sincerely,

ALFRED J. THOMPSON

Exhibit 586

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

12th February 1941.

Dr. G. Jebsen,
Titan Company Inc.,
111 Broadway,
New York, N. Y.

Dear Dr. Jebsen,

I confirm interchange of cables as follows:

Yours: "IS LAPORTE FREE TO GRANT TITANIUM LICENSES IN AUSTRALIA PLEASE CABLE"

Mine: "LAPORTE QUITE FREE IN AUSTRALIA"

So far as I know, Laporte is under no restriction whatever in regard to Australia, its agreement with the old company having terminated when the old company liquidated.

Yours sincerely,

C. J. STOPFORD.

Exhibit 587

Mr. H. S. Tasker
Limpsfield Court
Oxted, Surrey
England

February 14, 1941.

My dear Tasker:

Many thanks for your cable of January 22nd "WS ROBINSON ARRIVING AMERICA SHORTLY STOP HE HAS DEMANDED ON BEHALF OF ELECTROLYTIC ZINC COMPANY THIRTY PERCENT SHARE OF AUSTRALIAN TITANIUM COMPANY AND STATES THAT COMPANY OTHERWISE THREATEN INDEPENDENT MANUFACTURE STOP HAVE WRITTEN YOU FULLY JANUARY FIFTEENTH BUT MEANWHILE CONSIDER DEMAND UNJUSTIFIABLE STOP MY OWN FIRM DEFINITELY UNWILLING FOREGO ANY OF OUR PARTCIPATION AND EXPECT SAME ATTITUDE ICI BUT WILL CABLE THEIR VIEWS WHEN RECEIVED", and your cable of January 27th "IMPERIAL SMELTING AND ELECTROLYTIC ZINC ARE INDEPENDENT COMPANIES BUT WITH LARGE SHAREHOLDERS COMMON TO BOTH AND ELECTROLYTIC ZINC IS SHAREHOLDER IN IMPERIAL SMELTING STOP INFORMATION INDICATES ELECTROLYTIC ZINC ATTITUDE ADOPTED AT INSTIGATION ROBINSON WHO IS CERTAINLY DIRECTLY OR INDIRECTLY CLOSELY ASSOCIATED WITH THEM", in reply to my cable of January 23rd "THANKS FOR CABLE REFERRING CLAUSE ELEVEN AGREE-

Exhibit 587

MENT, 1933 IS ELECTROLYTIC ZINC A SUBSIDIARY OR ASSOCIATED COMPANY OF IMPERIAL SMELTING".

I have not written you earlier, awaiting your two letters of January 15th, which arrived Tuesday February 11th, and have been read and discussed with much interest by Rockwell, Garesche and myself, and upon which we sent you the following cable on February 11th "MANY THANKS LETTER JANUARY 15TH ARRIVED TODAY AND CABLE JANUARY 27TH STOP NOT DISPOSED TAKE IN AUSTRALIAN INTERESTS IN AUSTRALIAN ENTERPRISE UNLESS VERY DEFINITE ADVANTAGES TO BRITISH TITAN MAKE IT ADVISABLE STOP ROBINSON HERE BUT NOT SEEN HIM YET"

I also received from Mr. Stopford various cables of information and copies of L. R. Robinson's letters of January 15th, 17th and 20th to you, as well as your letter to L. B. of January 20th, and a copy of a letter of January 24th from Mr. B. W. Foster to Stopford concerning the various Broken Hill companies and companies built up around these.

Mr. W. S. Robinson telephoned to this office Monday, February 3rd. Mr. Rockwell was away in Florida and returned last Monday, and we expect therefore to see Mr. W. S. Robinson here any day. As we are ignorant of Mr. Robinson's arguments and basis for his proposal, I can only send you our preliminary reaction in the matter.

We have felt that having with us in the British Titan Products Company, *Imperial* Chemical Industries, *Imperial* Smelting Corporation and Goodlas, Wall and Associated Lead Manufacturers, which last is also a Company with

Imperial interests, we shall have ample support for the development of our Titanium industry within the Empire without our having to take in local interest for local developments outside Great Britain for the sake of influential support. If it is a question of obtaining advantageous access to raw materials like sulphuric acid or other tangible matters, it seems to us that this should be paid for in other ways. It does not in principle appeal to us to part with a share in the business for the purpose.

From your correspondence we understand that this is also your view. We have just received your cable of yesterday (copy of which is enclosed) regarding Mr. Wilkins' views and are glad to see that we all are following the same line of thought.

When we have seen Mr. Robinson and heard his views I shall be glad to write you again, particularly as we feel that if anything should develop from his proposal it should be done on your side, you being fully familiar with the Australian position which no doubt has been given a thorough study.

I beg to add that the interest which Barley, Mr. Wilkins and especially you have given the British Titan Products is much appreciated here and as you know especially by me, and we look forward with great interest to your further advice.

Hoping that you are well and with my best wishes and kindest regards, I am

Yours sincerely,

G. JEBSEN.

Exhibit 588

Copy

February 17, 1941.

Mr. H. S. Tasker
British Titan Products Company Limited
Burlington House
Yarm Road, Eaglecliffe
Stockton-on-Tees, England

My dear Tasker:

Many thanks for your personal letter of January 15th.

As information for your personal use I may add to my other letter of Friday, the 14th inst., the following development in this country:

I enclose statistics showing the development of the sales of lithopone and titanium pigments in the last twenty years, which speak for themselves. This trend of the development is expected to be still more pronounced, since National Lead Company early this year has put on the market two Titanox C pigments (calcium base) of considerable improved qualities, one with a tone strength of 540 to 560, which is chalking resistant to a fairly high degree, and one somewhat higher in tinting strength, 600, with the same chalking qualities as the Titanox C marketed previously.

The sales price is the same as for the old quality, and the production cost is expected to be also practically in line with the previous quality.

As regards the possibilities for Electrolytic Zinc Company to obtain technical support for the manufacture of titanium pigments, the possibilities are very restricted. In this country the companies which manufacture are all under license, either from the DuPont or the National Lead Company.

Exhibit 588

Under development as the Burgess Process (Sherwin Williams) they have a plant under erection on which they expect to start operations this coming Summer (capacity 10 tons a day). It is expected, however, that the process will prove to be rather expensive.

Pittsburgh Plate Glass Company is also working on a process which, however, is on a purely laboratory experimental stage.

In Europe you may remember that the German Auer Company spent between 7,000,000 and 9,000,000 Marks in order to develop a process, and gave it up after disappointing experiences on a factory scale.

I am recently informed that Noury & van der Lande have given up their efforts after having operated a pilot plant for several years. They have sold the equipment. It seems thus that only Laporte is in a position to give fairly satisfactory technical support.

I find it difficult to believe that there is a serious intention on behalf of Electrolytic Zinc to take up titanium manufacturing.

With best wishes and kind regards,

Yours sincerely,

G. JEBSEN.

Exhibit 589

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

In Reply Please Quote CJS/SL/19659

18th March 1941

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

Many thanks for your letters of February 13th, 14th and March 4th, all of which arrived together. Your expressions of good will and appreciation of the British attitude are very welcome. It is really amazing the way people have settled down to the abnormal life we are all leading at the present time, and carry on with their ordinary tasks just as they have been accustomed to do in the past, especially in the heavily bombed districts, where you see girls doing jobs under conditions which would have been considered only suitable for first line troops some years ago. In fact, I think I can say quite definitely that the period of inactivity before last summer was a much greater strain on everybody than the period we are going through at the present time.

A lot of people abroad used to be very reluctant to admit that the Englishman had any sense of humour, but humour seems to come to the surface spontaneously in all kinds of nasty situations. I saw a local rule on a golf course the other day, which struck me as being very typical of the

present times, although it is very rarely that one can get a game of golf. The rule reads:

> "If a player's stroke coincides with the explosion of a bomb or gun in the immediate vicinity, he may replay the stroke.
> Penalty: One stroke".

Exchange of Technical Information

I quite appreciate the attitude of Titan Company Inc. and the National Lead Company in regard to this and the arrangements with overseas companies, but nevertheless, it is disappointing that at the present time, when what are obviously very interesting developments are taking place in America, we are left guessing as to the details of them. Periodically, when we have been particularly interested, we have written asking specific questions and generally have had a very satisfactory reply.

At the moment, I should be particularly interested to have some details of the method of manufacture of the two new types of C. Pigment, as I can only guess that they are made by blending or grinding a new type of specially precipitated extender with Titanox—NC in one case and one of the more normal grades of Titanox in the other case.

Our research activities are somewhat limited at the present time; as some of our scientific staff has been seconded for Government work and plant problems associated with the change of ore and changed conditions have called for more scientific attention on the plant itself, but we are doing a certain amount of useful work. Anerum has now been made research manager and I had a very interesting talk with him, the other day on the subject of A.10 as compared with Titanox A.24, and we feel that if

laboratory work develops according to indications, A.10 will be the superior pigment, as it has all the properties of Titanox A.24 with considerable greater durability. It is interesting to note that the titanium in A.10 is a hundred percent in the rutile form and at the same time is an exceedingly soft pigment, with a very low oil absorption, which does not require Raymond milling or wet milling. Our main problem has been to obtain a pigment of satisfactory colour, but this we have managed to do in the laboratory by careful control of the cooling conditions. There will, of course, be some difficulties in translating this control into practice, but it is by no means impossible to do so. Unfortunately, we shall not be able to carry out large scale trial on this for some time under existing conditions. We do not wish to do anything which would interfere with the smooth running of the plant.

Last year's financial results will soon be out officially, and you should have a copy of the balance sheet in the course of the next month. Results are extremely satisfactory, but I think we must anticipate that the profit will be considerably lower during 1941; one of the main items of difference being that during 1940 we worked up our low priced stock of ilmenite.

LAPORTE

There are no further developments of note in this direction. After making some very interesting suggestions, O'Brien has gone back into his shell and does not seem inclined to follow them up.

AUSTRALIA

We were amazed to learn from your cable and letter of March 4th that W. S. Robinson had not raised the question

of participation in the Australian factory during his visit to you. He has been in this country for two weeks now, but has not mentioned the matter in the very brief correspondence which has passed between us. He is apparently saving it up for the Board which will be meeting next week. He has said that he will be at the Board meeting. It is very unfortunate that he has raised the matter in the manner he has, as it is bound to make relations somewhat strained whatever the outcome.

In regard to Australian ilmenite, I was in contact with the firm, Zircon & Rutile Limited, which I believe has since given up operating, in 1930. They had appreciable quantities of ilmenite available in the Byron Bay district north of Sydney. A sample which we examined gave the results given in the memorandum from Anerum enclosed herewith.

I shall be very interested to have an indication of the results of the examination of the samples W. S. left with you, and although you probably have it already well in mind, would comment that in view of the present situation and until the outcome of it is known, it might be dangerous to give the Zinc people any information at all as to the manufacture of titanium pigments from Australian ilmenite, unless the information happened to be that the ilmenite was quite unsuitable.

I agree with you in that without technical support from somebody already in the industry, the Zinc people are not likely to manufacture titanium and I should think that our Chairman's associates would hardly approach our competitors.

Sherwin Williams and Pittsburgh Plate Glass are hardly in a position to give support on the technical side as yet.

Exhibit 589

I was interested in your news as regards Noury van der Lande, although I doubt whether they would have any option to do otherwise that cease manufacture.

My wife and family are all keeping well, as are all your friends in B. T. P. also. I was interested to see that you have taken a house at Greenwich, Connecticut. You have certainly chosen a beautiful spot in which to live. Peaceful places like that appeal to me very much at the present time. Please give my kind regards to Mrs. Jebsen. I hope that she has fully recovered from her experiences, which cannot have been pleasant. Thanks for the news about Bommen, of which I was not aware.

With kind regards,

Yours sincerely,

C. J. STOPFORD



Exhibit 590

Letterhead of

H. S. TASKER.

Temporary Address
LIMPSFIELD COURT, OXTED, SURREY

HST/MS 16th April, 1941.

Dr. G. Jebsen,
The National Lead Co.,
111, Broadway,
NEW YORK, U.S.A.

My dear Jebsen,

I am enclosing herewith a copy of the letter we are sending to the Electrolytic Zinc Co. turning down their application to become partners in the Australian business. This letter has been approved by W.S. Robinson as you will see by the copy of his letter addressed to Stopford, also enclosed.

I want to draw your attention to the second paragraph of W. S. Robinson's letter. Stopford has very rightly replied offering to take supplies of Sulphuric Acid from the Electrolytic Zinc Co. if this can be arranged. He has ignored the statement made in the first sentence of this paragraph.

This statement that the Electrolytic Zinc Co. is free to manufacture Titanium is, of course, very strictly and legally correct, but you know from the information we have given you how close are the links between this Company and the Imperial Smelting Corporation, and there is no doubt that if the Electrolytic Zinc Co. did commence to

manufacture, it would at any rate be a breach of the moral obligations of the Imperial Smelting Corporation.

It would, of course, be possible to make a statement to that effect at this stage, but have consulted Barley and both he and I feel that it would be better to leave the threat unanswered as we believe it to be a statement made by W. S. in one of his belligerent moods and that we will probably hear no more about the matter.

We are, therefore, letting the matter rest and I should like to know that you and our American friends approve of this course.

If ever further action is taken by the Electrolytic Zinc Co., I think a protest by the American shareholders would have a great weight; probably a good deal more than a protest by the other British shareholders.

With kind regards.

Yours sincerely,

H. S. TASKER

Exhibit 590

COPY

BRITISH TITAN PRODUCTS CO.LTD.

10th April 1941.

Sir Colin Fraser,
Chairman,
Electrolytic Zinc Co. of Australia Ltd.
Collins House,
MELBOURNE, C.1.

Dear Sir,

TITANIUM PIGMENTS

The letter dated January 10th 1941, from the Secretary of the Electrolytic Zinc Co. of Australasia Ltd., informing us of that Company's desire to participate in the capitalisation of a company to undertake the production of titanium oxide in Australia has been considered by the Board of this Company.

I am instructed to inform you that the Board much appreciates the offer made and if, at a later date, it should desire Australian partners, it would be very pleased to discuss the matter further. At the present time, however, owing to the reduction in British turn-over entailed by the transfer, it would prefer not to reduce its interest in the Australian titanium business, to the development of which it has given very close attention over a number of years, with the result that a level has now been reached at which domestic manufacture becomes economically possible.

Yours faithfully,

FOR BRITISH TITAN PRODUCTS CO.LTD.

(Sgd.) B.T. MINTER,

Secretary.

Exhibit 591

Letterhead of
BRITISH TITAN PRODUCTS CO., LTD.
BILLINGHAM

(COPY)
IMPERIAL CHEMICAL INDUSTRIES LTD
from:
I.C.I. (Paints) Limited,
Wexham Road,
Slough,
Bucks.
30th September (sic) 1941

Dear Tasker,

In acknowledging your letters of the 15th ano 20th inst., may I first say how sorry I am to learn that you are indulging in a minor operation. I hope it will be completely successful and you will benefit considerably therefrom.

With you, I am disappointed in the attitude adopted by W. S. Robinson in connection with titanium developments in Australia. I note from your second letter that the electrolytic Zinc Co. ask for one third participation in this and whilst this claim may be modified somewhat, any participation on their part does, as you infer, upset the balance of interests that was agreed upon at the formation of the British Company as a compromise all round, and I am sure I.C.I. only agreed to accept such a small quota to avoid unnecessary future competition and on the understanding or in anticipation that this proportion at least would be our share in any future developments.

I gather from the correspondence that W. S. Robinson is on his way back to this country via America and we shall probably hear what stand the National Lead Co. Ltd., New

York, are prepared to take in connection with the Electrolytic Company's claim as, to my mind, they are the people who should make some contribution to the Electrolytic Company's quota if they have to have one. This would probably mean the structure of the Australian Company being more independent and based on somewhat different principles than I had envisaged.

Mr. Foster, of our Australian Department, tells me that Stopford has written to him enquiring for details in connection with the position of the Electrolytic Zinc Co. within the Australian group. I believe some information has been furnished but whether it will be sufficient for our requirements, I do not know.

I had an interview yesterday with Mr. Todhunter, the I.C.I. Director who handles all Australian affairs and pays frequent visits to that country. He is extremely interested in any Australian development and tried to explain to me part of the complication that exists out there by the various community of interests.

You probably know more of this than I do and how the Zinc Corporation, with Broken Hill North, Broken Hill South, and the Electrolytic Zinc Co. are interwoven and how several of them have joint interests in ventures in Australia with I.C.I. For instance, they and we own 25% each in the Fertiliser Co. and similar amounts in the New Aircraft Factory, and Broken Hill North and South have jointly about 16% in B.A.L.M., and the Electrolytic Zinc Co. have a very small interest even in I.C.I. (A. & N. Z.)

W. S. Robinson does not appear personally on the Board of any of these companies so his actual position over there is now clear to me.

I understand, from Mr. Todhunter, that Sir Colin Fraser Chairman of a number of the above-named com-

panies, is a very fine man and a friend of Sir Lennon Raws and known to Mr. Todhunter personally. Therefore, if he can help in any way by cabling Sir Lennon, for Sir Colin Fraser direct; he will do so on receipt of details of any suggestions we have to make.

I note your comments in connection with the work that you have put into B.T P. and these I very gladly confirm and I should be equally disappointed if your Company were obliged to accept any smaller quota than that at present held.

I have been trying for some days to get in touch with Major Barley and only succeeded the other evening in having a few minutes' chat with him on the 'phone. He is eqtually disappointed with W. S. Robinson's attitude and I believe he said he had or was going to write you on the subject and endeavor to attend our next Board Meeting.

I do not think we can do any more at the moment but wait for Jebsen's reply to your letter, or the arrival of Mr. Robinson himself, when the meeting with him will be interesting and at which I shall be very pleased to support the general attitude that you have adopted to Mr. Jebsen, and if between now and then I can do anything more specific to help, let me know.

Yours very sincerely,

OLIVER WILKINS.

P.S. Since writing the foregoing I have received from Stopford copies of letters exchanged between Mr. L. B. Robinson and yourself, but I do not think these alter the position or call for any further remarks from us.

H. S. Tasker Esq.,
63, Belvedere Road,
LONDON, S.E.I.

Exhibit 592

BRITISH TITAN PRODUCTS MEETING,
11 A. M., DECEMBER 5, 1941

Those present:

Messrs. F. W. Rockwell
C. J. Stopford
G. Jebsen
Charles Simon
C. F. Garesche

The meeting was called for the purpos of having Mr. Stopford inform those present regarding the progress of plans for BTP building a titanium plant in Australia. The following notes were taken from the discussion:

A titanium plant was built in 1930 and approximately 40,000 £ were sunk in the venture. Ilmenite for use in this plant was obtained from King Island about 130 miles off Melbourne. This plant was eventually sold for 7000 £ and new capital amounting to about 20,000 £ was put into the venture. In 1936, the people interested in this venture requested a 20% tariff on titanium pigments. This tariff was opposed by the BTP interests, Mr. Stopford going to Australia to testify in the hearing. The tariff was not granted because it was determined as a result of the hearing that manufacture in Australia was uneconomical. At that time, BTP testified that when the Australian market consumed from 600 to 800 tons of TiO_2 per year, they would be willing to consider building a domestic plant. Shortly after this decision, re-application was made for a tariff but this was denied without it being necessary for a BTP representative to testify at the hearing.

In 1937 the British Titan Products Co. formed the Australian Titan Products Proprietary Ltd. (ATPP) with an

authorized capital of 100,000 £ of which only a few shares at 1 £ are issued. The original above mentioned first titanium company was probably formed in 1930. This company was taken over by Titanium Pigments Ltd. of which Holmes Hunt was Chairman and he finally sold the physical assets to BTP (ATPP) for 5000 £. Physical assets included plant at Sportswood, 7 miles west of Melbourne. It is near the I. C. I. plant at Deer Park. Mr. Backhouse, formerly with this company (TPL) joined I. C. I. A. N. Z. (Imperial Chemical Industries—Australia New Zealand)—which are BTP's sales agents—as BTP technical sales service representative (partly paid by I. C. I. A. N. Z., partly by BTP). Mr. Backhouse had had experience with the National Titanium Company of England. The Australian company had been operating under a license agreement with LaPorte. They had agreed to pay as royalty 5 £ per ton and a minimum of 1000 £ per year. At the time BTP bought them out they were two years in arrears on royalties. LaPorte had taken stock for the arrears. BTP shut the plant down and until recently has kept it idle, merely in the care of a watchman. It is now rented for 500 £ per year to an alum company who have an option to buy for 7500 £.

Australian sales in 1940 were 1100 tons TiO_2 which is more than the 600 to 800 tons which BTP stated was enough to justify building an Australian plant. On Mr. Stopford's contemplated visit to Australia, he will be seeking a site which will permit waste disposal and be near an available supply of sulphuric acid.

Early in 1939, a lithopone plant in Australia of 3000 tons capacity was proposed by others, but this has not been built.

Exhibit 592

A few months ago, BTP received a letter signed by the secretary of the Electrolytic Zinc Company of Australia of which Sir Colin Fraser (fine type man) is Chairman, stating that they expected a 30% share of the stock of any titanium company which might be formed for manufacturing in Australia. BTP considered this request, Mr. W. S. Robinson in the Chair (Mr. Robinson also a Director of Electrolytic Zinc Co.). Decision was to refuse the request. Mr. Stopford had word that Mr. McLean, an old Works Manager of the Australian plant, had been advised not to tie himself up as LaPorte's Australian subsidiary (Crystal LaPorte Ltd.) was considering building a plant. Mr. Stopford also mentioned that there was a threat of competition in the "Dye" process proposed for the manufacture of alum. This process has a by-product of $TiSO_4$.

In May, 1940, BTP wrote a letter to the Australian authorities stating that Australian consumption had now reached the point justifying an Australian plant, but that war conditions did not make it the best moment. At the same time they applied for an increase of capital authorization. This request was referred to the Minister of Trade & Customes who, in turn, referred it to the Tariff Commission sitting as a technical committee, before which a hearing was held. Sir Arthur Robinson, a brother of W. S. Robinson, was the BTP solicitor. Paint manufacturers were called to testify. Everything went too well and approval was granted to increase BTP's Australian company's authorized capital from 100,000 to 200,000 £. W. S. Robinson preferred not to testify as he was also interested in lithopone. Backhouse did testify. The only advice BTP had regarding this meeting was a letter from Arthur Robinson advising that a sanction had been granted to

Exhibit 592

increase capital. Sanction provided that the capital must be called up, stating in 6 months and be completed within 12 months; otherwise re-application would be necessary. BTP can make more money by manufacturing in England and shipping to Australia; W. S. Robinson is advising lithopone people not to go ahead and advises BTP to go ahead only as far as is necessary to protect their interest at this time. The Australian pound at present has an exchange value of approximately 20% less than the English pound; 25 £ Australian being worth approximately 20 £ English. BTP sales in Australia at present earn approximately 30,000 £ gross per year. The English income tax law at present gives relief for all tax paid in Australia.

In 1940, sales were 1100 tons TiO_2. In 1941 up to October, sales were approximately at the same rate, but then exports were cut by 80%. Nov. 1st an order was issued to cut out exports entirely, however, compromised by agreement to cut to 50% after Nov. 1st. After Jan. 31, 1942, export license will probably not be renewed. If the Australian Government requests allocation for defense, they may be able to obtain some supplies from England. If pigments were to be supplied by the U. S., BTP would not expect to claim part of the profits so long as National Lead have no surplus. At present BTP have approximately 2½ mos. supply of ilmenite, now increasing this to about 6 months supply. Plan to suggest that Australian minister request English Government to give them a quota which Billingham could manufacture:

'It would take at least a year to build an Australian plant. It would be 3 months before English engineers following Mr. Stoppard could be on the ground ready to start.

Exhibit 592

Australian Sulphuric Acid

Only at Port Perry is there an available surplus. Port Kembla and Cockleereek are two possible sites. At Kembla there is some acid available, but the plant site would require piles to be driven throughout. A plant site here would cost approximately 25,000 £ after piling, whereas at Cockle-creek, it would cost about 7,000 £. The titanium plant itself with a capacity of 5 tons per day, would cost about 115,000 £. In addition to this, 32,000 £ would be required for an acid or acid recovery plant of 20 tons per day capacity. Approximately 30,000 £ would be required for working funds. It is hoped that the plant might be financed by BTP out of income and cash.

The Sulphide Corporation is one of the important manufacturers of sulphuric acid in Australia not associated with W. S. Robinson. They are a possible source to BTP. Dr. Jebsen suggested that a study be made of the tax situation. There is a possibility that dividends direct from Australia to National Lead Company, for instance; also likewise to I. C. I. might result in a reduced tax burden. It is estimated that of the 200,000 £ necessary capital, perhaps 60,000 might be obtained from a bank loan in Australia. The possibility was suggested that BTP might subscribe for 51% of the stock and the other 49% be sold for cash proportionally to each of the present BTP stock owners.

C. E. GARESCHE.

To Garesche,
Retaining your draft with thanks.
Have annexed a copy with changes as suggested by Stopford and have kept a copy myself.
It is understood that these copies are not to be distributed.

G. JEBSEN.

Exhibit 593

Letterhead of

TITAN COMPANY, INC.

No. 25

Paris, October 23rd 1933.

CJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re British Titan Products Co. Ltd.

Mr. Stopford has seen Laporte and, during the conversation, he plainly suggested to them that we should refrain from manufacturing Blanc Fixe in case they would deliver to us and they stopped their manufacture of TiO2; taking deliveries from us instead.

Laporte did not reject this idea, but told him that one condition on their part would be freedom to sell Titan Products over the whole world. They said they would place the matter before the Board and Mr. Stopford is expecting an answer in two or three weeks.

Giving Laporte freedom to sell over the whole world would be against our agreements with our other associated companies. The condition is probably put forward by Laporte as they know that B.T.P.'s market is limited to the British Empire and they may ask for a compensation in restricting their liberty of action. On the other hand,

Exhibit 593

Laporte's manufacturing position is such that an export is very much handicapped.

I will keep you informed as things develop.

Re Blumenfeld

I talked the matter over with Dr. Kühne and Mr. Weber-Andreae. They are in principle in favour of an arrangement with Blumenfeld and are willing to make a small sacrifice with regard to Montecatini's export.

I am now working on the sales figures of the various markets and will see Blumenfeld on Wednesday or later in the week. He is rather reluctant in giving out sales data.

I shall keep you informed as soon as anything further develops.

With best regards,

Yours very truly,

G. JEBSEN.

Exhibit 594

No. 26

Letterhead of

TITAN COMPANY, INC.

Paris, October 26th 1933.

GJ/AK
William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose copy of an interesting report from Mr. Stopford, regarding negotiations with Laporte, of October 21st, as well as a confidential cable of October 19th, which I understand has been received by Mr. Robinson.

Mr. Stopford reported over the telephone the other day that the work in Billingham is proceeding well.

Your very truly,

G. JEBSEN

Exhibit 594

COPY

CONFIDENTIAL.

Cable received from Colin Fraser Esq., Melbourne on October 19th. 1933.

Referring to our cable of 4th.,
Company being formed purchase assets of Titanium Products Ltd. owing King Island (s) Mine (s) and certain plant in Victoria and acquire licenses from Laporte of Luton to manufacture 500 tons Titanium Oxide per annum, believe business and technical personnel concerned weak but Laporte being paid 2000 £1 shares out of 20,000 to be issued in addition to cash and royalty (s):
(x). Understand Ilmenine may be drawn from India.
Project is likely to lead to duty being imposed against imports.

NOTE: (x). This paragraph does not "check" but would do so if "Europe" was inserted in place of "India".

Exhibit 594

CONFIDENTIAL

BRITISH TITAN PRODUCTS CO. LTD.

NEGOTIATIONS WITH B. LAPORTE LIMITED.

Date: 21st October 1933.

BRITISH TITAN PRODUCTS CO. LTD.

NEGOTIATIONS WITH B. LAPORTE LIMITED.

In accordance with the instructions of the Board, the undersigned wrote to Laporte on October 6th 1933, asking for quotations for the supply of Blanc Fixe at the rate of 1,000, 2,000 or 3,000 tons per annum. A formal acknowledgment of the enquiry was sent by Laporte on October 7th, and a letter dated October 12th outlining the Blanc Fixe position was received later. In this letter, a price of £8. per ton of S. F. quality dry powder F. O. R. Luton, was offered with a request that the figure be treated as very confidential. The final paragraph of the letter contained the suggestion that Mr Stopford should meet Mr. O'Brien to discuss the details. We replied on October 14th. to the effect that the price was not attractive and that we agreed to the suggested meeting. During a subsequent telephone conversation, Mr. O'Brien invited the undersigned to visit Luton, the invitation was accepted and a visit arranged for October 18th. 1933.

The visit took place as arranged and after some general conversation, Mr. O'Brien introduced the subject of TiO_2 Manufacture, and said he was very glad to have the opportunity to meet the undersigned as they generally worked on very friendly terms with their competitors.

Exhibit 594

Mr. O'Brien then said that they had treated our enquiry for Blanc Fixe as a very serious one and had offered an exceptionally low price, lower in fact than the price at which they were supplying their own titanium works, and asked the undersigned to tell him candidly the probable tonnage and the highest price which would interest us.

The undersigned then suggested that it might be of mutual advantage if some arrangement was made whereby we refrained from the manufacture of Blanc Fixe and in return they dropped the manufacture of Titanium Oxide. Mr. O'Brien said that this was a very unexpected proposition (actually he did not appear to be surprised), which he would like to return to later but before doing so would like to deal with the Blanc Fixe as an independent enquiry. In reply the undersigned indicated that the tonnage could be taken as 1,500 tons per year ($BaSO_4$) which may be required in the form of all pulp (73% $BaSO_4$) all dry powder, or part as pulp and part as powder and that the maximum price we could consider would be £7 per ton F.O.R. Luton for dry powder and £5 per ton F.O.R. Luton for 73% pulp on a 100% $BaSO_4$ basis. Mr. O'Brien remarked that these were exceptionally low prices and said that prices such as these could not be considered in conjunction with any deal in regard to TiO_2 production.

The undersigned then suggested that Laporte's interest in Titanium was really from the point of view of an outlet for Blanc Fixe. Mr. O'Brien replied that initially that was the case, but that now the position was somewhat different as it was difficult to say whether peroxide was a by-product of Blanc Fixe or vice-versa. He stated definitely that Laporte's would not drop Titanium altogether but may consider taking their requirements from B.T.P. on a cost-plus

basis and asked the undersigned to suggest a scheme for consideration.

After explaining that cost-plus basis would not be acceptable as it would necessitate disclosing our costs and amplifying the Blanc Fixe position to point out that we had thoroughly explored the cost of production and that as a result, if we manufactured we should produce more than our requirements to work the plant at an economic load, the undersigned made the following suggestions as a basis for discussion:—

(a) That Laporte should cease to manufacture Titanium Dioxide and that in return B.T.P. would not manufacture Blanc Fixe and would take their requirements of Blanc Fixe from Laporte provided that the price of Blanc Fixe was acceptable to B.T.P.

(b) That Laporte should take their requirements of Titanium Oxide from B.T.P. at a price bearing some agreed relationship to the market price.

Mr. O'Brien intimated that he considered it essential that Laporte retained their freedom to sell throughout the world as he understood that B.T.P. had a limited territory. He also suggested that there should be no restriction on the quantity sold by Laporte provided that scheduled sales prices were agreed and adhered to in all countries in which B.T.P. and/or its associates were interested.

Mr. O'Brien also remarked that if the suggested arrangement was made the price of Blanc Fixe could not be so low as the prices asked for earlier in the discussion.

Mr. O'Brien then excused himself and after an absence of twenty minutes returned accompanied by Mr. Weber.—

Mr. Weber stressed the importance to Laporte of losing contact with TiO_2 manufacture as they would then not be in a position to negotiate with TiO_2 manufactures in other countries.

Mr. O'Brien also pointed out that if some years hence the Blanc Fixe arrangement broke down their TiO_2 plant would be obsolete or possibly scrapped and B. T. P. would have sufficient plant capacity to look after the whole market.

The undersigned informed them that B. T. P. would have the plant capacity in any event.

Mr. O'Brien said that they looked on their existing plant as a pilot plant with the possibility of large extensions ahead.

The position was left as outlined above, Mr. O'Brien saying that he would like to discuss the matter with his colleagues and put it before his Board. He will communicate with us after he has done so.

OTHER POINTS OF INTEREST:

During the general discussion, Mr. O'Brien made the following remarks:

1. Montecatini are selling about 400 tons TiO_2 in Britain.

2. That there was a titanium works in Australia, and when the undersigned suggested that it was derelict, Mr. O'Brien remarked that it could easily be started up again.

3. That they have considered the price of TiO_2 and whilst they think it too high have decided not to cut prices at present.

Exhibit 594

4. In the event of any arrangement being made the fact that Laporte was no longer manufacturing would have to be kept absolutely secret. It was pointed out that this may be very difficult.

Mr. O'Brien telephoned the next morning (19/10/33) and asked the following questions:

1. Could we give him an estimate of the proportions of pulp and dry powder in our Blanc Fixe requirements?

2. In view of the development of $CaSO_4$ as an extender in America, did we think that Blanc Fixe would eventually drop out of use, in which case Laporte would be interested more in TiO_2 than in Blanc Fixe?

To these questions, the undersigned replied as follows:

1. It is impossible at present to give any indication of the proportions of pulp and dry Blanc Fixe we shall require.

2. There will always be a demand for Blanc Fixe as an extender and that Calcium Sulphiate would be used in addition to, rather than in place of, Blanc Fixe.

Signed: C. J. STOPFORD.

Exhibit 595

Letterhead of

TITAN COMPANY, INC.

No. 35

Paris, November 24th 1933.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

RE LAPORTE

In B.T.P.'s last Board Meeting, November 17th, an arrangement with Laporte was again discussed. It was generally agreed that this would be desirable in order not to have the market disturbed.

Laporte's titanium enterprise is worked as a separate company, the National Titanium Pigment Co., in which the Tilden Smith group is still interested.

Laporte's price for Sulphuric Acid is 50% above ours. Their strength is their by-product, Blanc Fixe. It looks as if this will counter-balance their higher production costs for TiO_2, so that they may be able to make a 25% pigment at the same price as B.T.P. A price of £4.0.0 per ton of Blanc Fixe is then assumed, whereas Laporte at the present

moment charges probably somewhere about £7.0.0. A price of £4.0.0 is presumably lower than the price they can dispose of otherwise.

Barley suggested that B.T.P. take over the National Titanium Pigment Co., by giving them shares in B.T.P. Laporte had emphasized the possibilities they have in markets outside British Empire, and Barley thought therefore that we would have a particular interest in getting National Titanium Pigment Co. into B.T.P.

I rejected this, emphasizing that we would not diminish our proportionate interest in the B.T.P., telling him that our answer to a similar proposal from I.G. (taking in Sachtleben) was that we will welcome Sachtleben if I.G. wishes to sell them a part of I.G.'s interest, but we wished to maintain ours. I suggested an arrangement with Laporte on lines similar to ours with Blumenfeld and Montecatini, giving Laporte—or National Titanium Pigment Co.—a quota in the British market against limitation of their capacity, and deliveries from us at favourable prices for excess requirements.

Stopford asked me after the meeting, if we will be willing to take Laporte in, on the basis of each partner contributing ¼ of the shares to be given to Laporte.

Although on this line an arrangement might be possible, by which we still have the majority together with one of the English partners, it seems to me a dangerous line to start on.

Tasker thought such an arrangement might give us more profit than by sharing the market with Laporte.

I told them that first all other lines for an arrangement with Laporte ought to be explored before anything of that kind was contemplated in conversations with Laporte, as

other considerations are to be taken besides the question of proportionate earnings.

Monday there was a meeting between three of Laporte's representatives and Tasker, Barley and Stopford. This resulted in nothing, except what was already arranged between Stopford and Laporte, that no price cutting competition should take place. Laporte had started with somewhat lower prices, to meet the market's expectations of cheaper products from a domestic manufacturer, and of course wanted to take credit for this. We will lower our prices correspondingly, but not go below Laporte's basis.

From conversations with each of our English friends, I understand that Laporte

1) in spite of what has been said, believe that we are afraid of price cutting at our present import stage;

2) over-estimate their manufacturing position compared with ours in Billingham;

3) are not prepared to talk about quotas as they think they can increase their present very small sales.

They had mentioned that their program includes an extension for making TiO_2. At present they only make a product containing 82% of TiO_2, which they sell as such, and reduced with Blanc Fixe.

Greeff encounters them very little on the market; the samples of their product are somewhat inferior to ours—but not very far, according to Mr. Heaton's examination.

Barley told me that Laporte particularly had emphasized an exploitation of their processes in Canada and U.S.A., and Barley thought this might be very inconvenient for National Lead Co. and Dupont. You know that in Canada they are cooperating with Monk & Irwin. I

have understood from I do not remember where, that Monk had proved a failure, but I suppose you are better informed about this and would like to hear from you in this connection.

I told Barley that you did not seem to be afraid of competition in U.S.A., and mentioned your experience with the Vanadium Company.

Please let me know New York's reaction to this question of merging National Titanium Pigment Co. with B.T.P., and what interest this has for the Titanium Pigment Company and Dupont.

I do not think that Laporte represents an important danger for the Continent. Export by Laporte from England to the Continent will not have great chances and there is not much probability of important firms in France and Germany taking a license from Laporte.

If Laporte wish to value themselves as a nuisance, they may of course be a disturbing element, but, as it is a serious firm, this is not likely.

I have told our friends in B.T.P. that I think it is first of all up to B.T.P. to deal adequately with Laporte, as we have been trying to take care of the Continent, and they have expressed a certain understanding of this.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 596

No. 86

Letterhead of
TITAN COMPANY, INC.

Paris, September 20th 1934.

William C. Beschorman, Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

For your information, I send you enclosed copy of my letter to Mr. Borgwardt of August 16th, regarding Leporte.

Mr. Stopford informs me that he and Mr. Thompson had a conversation with Mr. O'Brien of Laporte and informed him that B.T.P. contemplates towards the end of the year to reduce their prices by 10 to 15%. O'Brien did not seem enthusiastic about this, but declared that they would, in case, reduce their prices correspondingly.

During the conversation Mr. Stopford asked if Laporte would be interested in making a price arrangement for countries outside the British Empire. O'Brien said he was quite prepared to discuss the matter if we had any wishes on it, but left it to us as he looked upon the export business as a method of carrying overhead charges.

Mr. Stopford considers this as an indication that Laporte are making very little profit on what they are selling overseas. (This conclusion seems not necessarily to follow).

Exhibit 596

Mr. Stopford did not go any further with the matter, as O'Brien obviously wanted him to make suggestions and was not keen on putting forward any himself.

Returning from Norway, I have received information from two sources, that a Dutch firm, Messrs. Noury & Van Der Lande, Deventer, Holland, shows an extraordinary interest in gathering information about Titanium. I mention this in case you should happen to come across any indications in the same direction.

With kindest regards,

Yours very truly,

G. JERSEN

Exhibit 596

p.t. Fredrikstad, August 16, 1934.

GJ/KL.

M. Borgwardt, Esq.,
I. G. Farbenindustry Aktiengesellschaft,
Frankfurt a.Main.

Dear Mr. Borgwardt,

I acknowledge receipt of your favor of August 14th, regarding Laporte's offer to a Swiss factory of a license for the manufacture of Titanium White in Switzerland, and that the offer was rejected. I also note your conclusion that this proves the strong desirability of an understanding with Laporte. I much appreciate your information.

You will, no doubt, be aware that we follow the development of Laporte as closely as possible, with a view to the position in England as well as the possibilities of disturbing us in other countries.

Our English friends are of the opinion that Laporte represents no or very little danger as regards the British Empire, and from the contact they have had with Laporte they consider that time and developments will bring a change in Laporte's somewhat "cocky" attitude.

Laporte have in their conversation with our English friends also tried to valuate their position as possible grantor of licenses in the Non-British markets, and have particularly emphasized the value of an exploitation of their patents and experience in U.S.A. and Canada.

The British Titan Products Company has on its program various steps which are expected to have a considerable effect on Laporte and Laporte's business, in bringing them into a more reasonable attitude.

A contact exists also between Laporte and Blumenfeld Montecatini, in so far as a commercial co-operation is estab-

lished between Laporte and Montecatini, and conversations are going on between Blumenfeld and Laporte.

Under these circumstances it seems to me unwise, by showing nervousness, to encourage Laporte's ideas of the value of their position as grantor of licenses in foreign markets. The failure of their initiative in Switzerland also points in this direction. It seems to me rather questionable whether Laporte can do anything in regard to licenses in the Non-British European markets. The erection of factories in countries with small markets is not a tempting proposition, and Laporte's experience in Switzerland seems to confirm this.

Germany, I presume, is out of the question, and there remain then France, Belgium and Holland. Belgium and Holland are too near England and presumably, therefore, of more interest to them as markets for their factory in England, although they have hitherto not been very active there. As regards France, it is unnecessary to discuss, as you know the position.

Under these circumstances it seems to me advisable to let the situation in England develop and at the same time watch closely Laporte's activities in the Non-British markets. I shall therefore appreciate any further information you can give from time to time in this respect.

There are also other considerations in this matter which I prefer to discuss verbally.

With my best regards,

Yours very truly,

P. S. You know, I presume, that Laporte has given a license to an Australian enterprise, which however, our English friends contemplate with tranquillity.

Exhibit 597

WESTERN UNION CABLEGRAM

November 7, 1934.

NLT
PROTITAN
BILLINGHAM

CONSIDER AGREEMENT LAPORTE RE EMPIRE OUTSIDE GREAT BRITAIN SHOULD BE POSTPONED UNTIL CANADA AND SOUTH AFRICA CAN BE INCLUDED CONTINENTAL SITUATION OUGHT ALSO BE CONSIDERED

BEACHCROMAN JEBSEN

Exhibit 598

NATIONAL LEAD COMPANY

111 Broadway, New York, N. Y.

The following is carbon copy of telegram sent this day November 6, 1934.

Middlebrough 38 6 1141

JEBSEN CARE NATIONAL LEAD
NEW YORK CITY

LAPORTE MEETING AGREED ALL EMPIRE EXCEPT SOUTH AFRICA AND CANADA ON BASIS OF BRITISH DELIVERED PRICES CIF OCEAN TRANSPORT PROTITAN CHARGE STOP LAPORTE REQUEST CANADA DEFERRED ONE MONTH SOUTH AFRICA TWO MONTHS.

STOPFORD

Exhibit 599

COPY

TITAN COMPANY, INC.

PARIS, March 14th, 1935.

G. Jebsen, Vice President
26 Rue de la Pepiniere

No. 116

William C. Beschorman, Esq., Executive Vice President
National Lead Company
111 Broadway, New York City, U.S.A.

Dear Mr. Beschorman:

Re Blumenfeld agreements.

The agreements I showed you last autumn concerning the arrangements with the Blumenfeld group are now ready for signature. They have been sent Blumenfeld a fortnight ago and we are awaiting their return.

There have been a lot of detailed discussions and studies between Mr. Haber of Blumenfeld's and Mr. Henrikssen and Iuell representing our interests. Mr. Haber has had many small theoretical objections which it has taken time to straighten out.

We have though been operating as if the agreements were in existence since May 1st last year.

Blumenfeld-Laporte

From conversations with Blumenfeld a month ago, it appears that he has been and is in touch with Laporte, but negotiations have not been advancing.

From B.T.P.'s and our own point of view, we would not object to an arrangement between those two. It will,

as regards the continental markets, bring Laporte in line, as Blumenfeld will have to make this a condition for his cooperation with Laporte.

Blumenfeld has to me expressed himself adversely regarding a price agreement with Laporte for the Continental markets, as this, in his opinion, would mean an acknowledgment of the position of Laporte on the Continent. Although I do not think this exactly follows, I agreed to leave the matter open for some time.

Conversation with Laporte

On a visit to the British Industries Fair with Mr. Stopford, I happened to meet Mr. Weber and Mr. Wait of Laporte. Weber is a chemist and technical director and Wait has to do with the sales.

Weber was evidently very interested in having a talk. He told me they were extending their factory to a capacity of 1200 t. of TiO_2. As we have had a few but not very serious cases of price cutting in Holland and Sweden, I told him that they would not be able to enter the continental markets on that basis but it would only result in lower prices on our side and ultimately a repercussion on the English market. Wait suggested a price arrangement, to which I gave a non commital reply. Weber wished this connected with a quota arrangement. I told him he could not expect any quota on the Continent, as Laporte has no position there and would not succeed in entering the continental markets; they could only have a nuisance value and I did not expect that a firm like Laporte intended to establish themselves in such a manner. — Weber had no intention of making a price cutting competition, but thought that giving up the idea of selling on the Continent or giving licenses there should entitle them to a larger quota in

Exhibit 599

England. I said: no, and that we had had a case in Germany where we actually paid a firm for keeping out of the Titanium business, which is not only to the advantage of our German company but of all concerned, also Laporte, as this firm would have been in a very good position to export.

Weber asked if I would advise him to make an arrangement with Blumenfeld, to which I replied that we had no objection to that and Blumenfeld had no doubt a certain technical value.

Talking about a quote arrangement for England, Weber suggested 50%; to which Stopford replied with 5%.

Wait said that ultimately they would certainly be able to produce at a price as cheap as ourselves. I replied that this would never be the case; if they did, I had been wrong in not following the advice of some of our people who suggested to put the prices considerably lower than we have done, to prevent Laporte from developing. I told him that we could sell at their production cost and still have a nice profit; (I had the feeling that they silently agreed with this.) However, our policy has been to reduce prices slowly and step by step, as the market develops, so that there would be a gradual and sound growth of the business; too quick a development of sales by making cheap prices did easily lead to a repercussion, as was the case for instance with Lithopone when it started.

Weber then talked about the United States. He was going to Canada about the 20th of March and would also visit New York, and indicated that he as he was manufacturing in England he might find people interested to acquire their process abroad. I told him that they were infringing our patents. He objected to this, saying that

Exhibit 599

he had an expert's advice in this matter. I told him that probably one of the most outstanding experts in patent matters in the world was the I. G. Farbenindustrie and that they had declared to me after we had made our agreement, that the chief reason for this was their patent people's opinion that they could not get around our patents. This was not only an expert's advice, but it was substantiated by the I. G.'s action. When we had done nothing in England, he should remember that we only recently have started manufacturing in England ourselves. Any action before that time would only have lead to a compulsory license (I did not mention that the life of our main patents in England was nearly expired) I would not express myself as to the Titanium Pigment Co.'s policy, but he should be aware that the position in U. S. A. is very much different from England, as the industries have been established a long time and our patent position is very strong. Titanium Pigment Co. and Krebs recognize each other as friendly competitors.

Weber asked what about Glidden. I told him I had understood that Glidden were afraid of the patent position.

Weber wanted evidently also to find out whether he will be welcome paying you a visit. I told him a friendly visit by a competitor is always appreciated.

Weber is going to Canada in order to start operations of a peroxide plant erected by the Canadian Industries Ltd. under a license from Laporte.

He may discuss with them the question of a Titanium plant in Canada.

Stopford and Weber agreed that they would try to get in touch with each other in N. Y.

Exhibit 599

At the meeting of the British Titan Products Co. the next day Stopford and I reported about our conversation with Weber and Wait.

I told them that B. T. P. ought to let Laporte understand that any arrangements of Laporte outside the British Empire would complicate matters with regard to a quota arrangement for the British Empire. This was not much reacted upon by our colleagues in the B. T. P.

It is of course so, that B. T. P. has no contractual obligation which prevents them from making a quota arrangement with Laporte for the British Empire without considering the rest of the world.

I discussed this later with Stopford, who was in agreement that B. T. P. should do what they can to influence Laporte to keep out of the other markets. He pointed out, though, that we had make arrangements with Blumenfeld for the continent, without including the British Empire, to which I mentioned that we brought the matter up to B. T. P.'s board during our negotiations with Blumenfeld, but the Board did not find an arrangement desirable. Blumenfeld's position was of course considerably stronger and of longer standing that Laporte's. I also mentioned the case of Sachtleben. I agreed, though, that no definite principle or rule could be laid down in these matters. We can, for instance, not guarantee to be able to deal with any possible new comer on the Continent, in such a way that he is kept out of the British market. There is a firm in Holland, Van der Lander, which, when protesting against one of our patent applications, has announced its intention to take up the manufacture in Holland. If they should develop on the basis of the cheap sulphuric acid in Holland, they will find the home market far too small.

Stopford thought that if Laporte should be asked to refraim from doing anything outside the British Empire, it will result in a higher quota for England. I did not agree. Laporte's value outside the British Empire; where they have practically no position, could only be a nuisance value, which I think they could throw in without any extra compensation, considering the great advantages they will have in getting a quota arrangement for the United Kingdom or the British Empire.

In the Board Meeting a quota arrangement with Laporte was discussed. Thompson was of the opinion that it might be the time for the discussion of a quota arrangement after two years. I expressed the feeling that the time for an English quota arrangement should be in the autumn, and this seemed to be joined by the majority. No quantity was discussed.

There is no doubt that Laporte are selling their production, in spite of Greeff's not feeling their competition. They have, though, recently found that Laporte has been selling to one or two important firms to which we have not made deliveries until lately.

In the B. T. P. meeting the visit of Weber to Canada and U. S. A. brought up the Canadian question, and Major Barley referred to a conversation you have had with Mr. Purviss. He considered it desirable that the National Lead Co. lay down more definitely its policy in Canada, and, I believe, particularly with a view to a possible cooperation with the Canadian Industries Ltd., even if the time was not considered ripe for the erection of a factory there.

Somebody mentioned the possibility of the Canadian Industries Ltd. making arrangements with Laporte. I asked if not I. C. I. and Dupont together had the majority,

to which Major Barley answered: yes, but the Canadian Industries Ltd. is an independent company which also has Canadian interests to consider.

It will of course be of interest to follow as closely as possible Weber's movements in America.

Personally I think it desirable to postpone the erection of a factory in Canada until the market is more developed, but this is of course not a question within my competence.

Laporte's changes to make competition in Europe are not great or probably practically none as regards Germany and France, but of course Belgium, Holland and the Scandinavian markets are vulnerable if they will cut prices. If not, I should think their chances very small. Of course, a price arrangement without quota in these markets would mean a considerable handicap to them. I believe they have felt this already as regards the British market. On the other hand, they no doubt would not like to contemplate price reductions in England.

In the board of B. T. P., Thompson is very much for a further 10% cut in prices from the middle of this year, and I believe he will have the support of Tasker and probably also Barley and Robinson, provided our production costs come down to the expectations.

I have written you so extensively regarding my conversation with Weber and the position of Laporte, as I thought this would interest you and you may have a conversation with him on your side. I suppose this conversation will not touch much the European position. I should much appreciate to hear from you if he calls on you.

With kindest regards,

Very truly yours,

(Signed) G. JEBSEN.

Original in General file.

Exhibit 600

BRITISH TITAN PRODUCTS CO. LTD.

B. T. P./LAPORTE.

Notes on a discussion at the Park Lane Hotel on June 14th, 1935.

PRESENT: Mr. Tasker
Dr. Jebsen
Mr. Thompson
Mr. Stopford

The meeting was arranged to consider the line to be taken at the meeting with Laporte's representatives arranged for the following day.

Dr. Jebsen gave a general outline of the international position especially in connection with the position of Blumenfeld and after discussion with regard to patent or technical co-operation with Laporte it was agreed that:

(a) If Laporte have bought the Blumenfeld patent rights for Great Britain or the British Empire without any obligation to co-operate with Blumenfeld in the future we should be prepared to discuss an agreement for patent and technical interchange in making a quota arrangement which limited Laporte to B. T. P. territory.

(b) If Laporte have the Blumenfeld patent rights with the obligation to co-operate with Blumenfeld in the future we should only be prepared to consider a cross licensing agreement for Great Britain without any technical co-operation until such time as the world position is cleared as between our associates and Blumenfeld and this subject to a

closer study of the effect of such arrangement on the co-operation between the associated Companies.

(c) If Laporte have not the Blumenfeld rights we should not be interested in other than a plain commercial agreement.

(a) and (b) are both dependent on a very long term quota arrangement being made.

It was felt that nothing should be mentioned in regard to any financial arrangement and that no decision should be taken on a quota but the latter would be discussed if Laporte raised it.

It was agreed that the meeting should be opened by inviting O'Brien to table the price schedule he has informed us he has prepared and if he does so our attitude will to some extent depend on what his proposals are. If he does not table his schedule first, we should suggest a 15% reduction and allow ourselves to be persuaded to make it 10% stating at the same time that we reserved the right to make a special price to any consumer taking over 300 tons of Titanium Oxide or the TiO_2 equivalent of that amount in reduced grades.

If Laporte's representatives raise the question of Blanc Fixe we should say we are definitely interested in the market and would prefer not to discuss it until we have been operating for a longer period. If they indicate that they are prepared to enter into what we consider to be a reasonable TiO_2 quota arrangement we should ultimately consider a 10% quota in Blanc Fixe with the right to sell at 10/- per ton below their price.

Exhibit 600

BRITISH TITAN PRODUCTS CO. LTD.

MEMO. ON MEETING WITH REPRESENTATIVES OF NATIONAL TITANIUM PIGMENTS LTD. ON JUNE 14TH, 1935.

PRESENT:	B. T. P. Co.	N. T. P. Ltd.
	Mr. H. S. Tasker	Mr. L. P. O'Brien
	Dr. G. Jebsen	Dr. I. E. Weber
	Mr. A. J. Thompson	Mr. D. Wait
	Mr. C. J. Stopford	

Mr. Tasker opened the discussion by remarking that as we had not been able to hold a Board meeting since Mr. Stopford's return, we would not be able to take any decision on the question of co-operation raised by Mr. Weber during conversations in America.

Mr. O'Brien was then asked to table the proposals for reduced prices, which he had told us previously he had prepared. He replied that they had drawn up a schedule for a 10% reduction in accordance with the indication given by us in December last. We said that we thought the reduction should be 15%, and after a short discussion between themselves, the N. T. P. representatives accepted this. Details are set out on the attached memoranda.

Some discussion on general price policy took place after Mr. O'Brien remarked that he assumed that even B. T. P. could not continue to reduce prices by 20% per annum.

In response to a question by Dr. Jebsen, Mr. Weber said they had not yet made an arrangement with Blumenfeld. (This does not agree with Dr. Jebsen's information from the other side).

Exhibit 600

It was pointed out to Mr. Weber that we could not consider any scheme of co-operation without knowing exactly the position between N. T. P. and Blumenfeld. Mr. Weber said that if they did make an arrangement with Blumenfeld it would probably be a comprehensive one, including technical co-operation.

No discussion took place in regard to a quota arrangement on Blanc Fixe.

Attached copies of:

Memo. on meeting as exchanged with N. T. P.
Price schedule—Great Britain.
Price schedule—Empire (excluding Canada).

Exhibit 600

MEMORANDUM OF A MEETING BETWEEN REPRESENTATIVES OF NATIONAL TITANIUM PIGMENTS LTD AND BRITISH TITAN PRODUCTS CO., LTD., HELD AT THE METROPOLE HOTEL, LONDON JUNE 14th, 1935.

Copies to:
Mr. O'Brien (2)
Mr. Tasker
Dr. Jebsen
Mr. Thompson

PRESENT: *B.T.P.Co.*

Mr. H. S. Tasker
Dr. G. Jebsen
Mr. A. J. Thompson
Mr. C. J. Stopford
N.T.P.Co.
Mr. L. P. O'Brien
Dr. I. E. Weber
Mr. D. Wait

It was agreed to reduce prices of titanium pigments to the prices set out in the attached schedules. The basis being approximately a 15% reduction in prices in Great Britain. It was also agreed to give a deferred rebate to consuming customers taking over 300 tons of TiO_2, or its equivalent of reduced grades, in a year. In addition it was agreed to fix British Empire prices (Canada excluded) c.i.f. Empire ports on the basis of the British delivered.

price plus freight and insurance and to hold the prices set out in the attached schedule.

It was agreed that the Canadian prices set out in a letter from Mr. Stopford to Mr. O'Brien, dated May 21st, 1935, would remain unaltered for the time being, the reduction in price to be effective from July 1st 1935, and the trade to be notified by letter posted not earlier than June 28th 1935.

Although it was not discussed at the meeting, it was subsequently agreed between Mr. O'Brien and Mr. Stopford that Titanium pigments would be offered packed in bags at 10/- (ten shillings) per ton lower than the list price, which is for pigment packed in barrels.

TITANIUM PIGMENT PRICE SCHEDULE.

Schedule of Prices, delivered customer, in barrels, in Great Britain agreed between British Titan Products Co. Ltd., and National Titanium Pigments Ltd., June 14th, 1935. To come into operation, July 1st, 1935.

NOTE: "Actual Prices not reprinted."

Exhibit 601

W. C. Beschorman, Esq.

HST/WMB 30th October, 1935.

C. J. Stopford, Esq.,
British Titan Products Co., Ltd.,
Billingham,
STOCKTON-ON-TEES.

Dear Stopford,

Laporte

Major Barley and I had a talk over lunch yesterday with O'Brien and Weber. I am writing this note to you to serve as a record and am sending a copy of it to each Member of the Board.

1. We told them that the whole object of our conversations with them was to create an atmosphere in which it would be easy for either side to raise and discuss without reserve questions of mutual co-operation of whatever kind. We said we felt we had made it clear that our attitude towards them was completely friendly and that we personally felt there would be definite advantage for both sides from closer co-operation. Our Company, however, was in no hurry about this and we felt that the next step must be an expression from them as to whether they desired anything of this nature.

2. They expressed themselves as definitely in favour of co-operation and stated that in their belief the opportunity for some closer co-operation would come sometime during 1936. (The meaning of this is presumed to be their expectation that by that time they will be producing pure TiO_2.)

Exhibit 601

3. We explained that one of the things to be avoided was providing the trade with too great plant capacity by independent expansion without the opportunity of mutual consultation. They agreed with this but no definite undertaking was given by either side that such consultation would take place.

4. They were anxious to know whether we intended to reduce prices still further on January 1st. We stated that the result of the last price reduction had been very satisfactory for us and, therefore, we could not give any declaration that further price reductions in the comparatively near future were unlikely. I said that I personally was in favour of waiting until after January 1st, 1936, before a price reduction should take place, in order that we should get the trade out of the habit of expecting a regular reduction every six months. They stated that they had found the effect of the July reduction also satisfactory.

5. Arising out of this, they raised the question as to whether it was wise to continue making long term contracts with a fall clause. We took the line that, although in principle a fall clause is a bad thing, the special circumstances of this trade at the present time made it almost inevitable and, in reality, did not commit us to concessions which would not be given in any case. We also stated that for us a cessation of the fall clause would mean such a departure from previous practice as to be almost impossible.

6. They raised the question of patent co-operation and were anxious that where they opposed our patents this action should not lead to throwing the position open to third

parties, which would be avoided by private arrangement between us, providing for free license. We told them that we were not conversant with details but in principle we agreed with this, although where we were advised that our case was strong it was impossible to do otherwise than pursue it on its merits, in the absence of a wider working arrangement between us.

7. The atmosphere was noticeably friendly and considerably more free from restraint than it was at our previous talk, so that it would appear that these conversations are fulfilling the purpose for which they were intended. We arranged that we should continue to have similar meetings even though there may not be concrete business to discuss, in order that personal contact may be maintained and strengthened. We are to go out to lunch with them at Luton sometime in December. It was made clear that these talks are quite independent of any detailed talks which may take place on the subject of prices etc. and which would involve other people in addition to or instead of ourselves.

Yours sincerely,

(Signed) H. S. TASKER

Exhibit 602

No. 177

Letterhead of

TITAN COMPANY, INC.,

GJ/AK

Paris, January 22nd, 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Re Pinchin Johnson Agreement.

Many thanks for your letter of November 29th, my reply to which has been delayed through my trip to Norway.

Before the last Board Meeting in B.T.P., December 6th, I saw Mr. Tasker who was particularly dissatisfied with Mr. Thompson and Mr. Stopford in their negotiations with Pinchin Johnson having gone beyond their authorisation, and intimated that he would like to see this being taken up during the Board Meeting. He pointed out again that Mr. Thompson had brought the matter too far without Stopford being present, as mentioned in my letter to you of November 14th.

In the Board Meeting I strongly expressed that Thompson and Stopford should not have gone beyond their authorisation, as there would have been no difficulty in consulting the Board.

I criticised the agreement as to the following points:

1) Making the price lower than authorised.

Exhibit 602

2) The falling clause by which this lower price is put in a definite ratio to our lower official list price.

I recalled in this connection, that when last summer a special low price for 300 t. contracts had been fixed, it was specifically mentioned by me and agreed by all, that this price was not to be in a definite ratio to the official list prices, as it was the idea that the official list prices by a later reduction should come into line with the special price fixed for the 300 t. contracts. This last price was fixed on Mr. Thompson's suggestion and his statement that with this price he would be able to make certain agreements with specific customers (in the linoleum trade). He mentioned a possible consumption of these specific customers of quantities corresponding to 500 t. of TiO_2.

I could understand that Pinchin Johnson being known to be very hard to deal with had forced our people to give the additional rebates of 1, 2 and 3 £ for the increased quantities and a falling clause securing Pinchin Johnson that reductions in our official prices would not put them in a disadvantageous position, but I was afraid that by establishing the present ratio we might find the contract inconvenient later on.

3) I had been informed that the price for Pinchin Johnson had been established in view of the Australian factory having made offers at this price. However, by applying the price also for the United Kingdom and the rest of the British Empire and further accepting the ratio so established of this price to our official list prices by a falling clause as done, we had let the specific situation in Australia influence our total British Empire price structure too much.

Thompson replied that he thought this Pinchin Johnson agreement was one of the best things we had done. It would bring Pinchin Johnson to try out the use of Titanium in all their cheap paints, and he foresaw a very important development of the Pinchin Johnson consumption, which would lead to a large development in the rest of the market.

Major Barley said that he had had qualms regarding this contract and given it considerable thought. He thought, however, the low price was justified.

Tasker emphasized my criticism regarding the negotiations overstepping their authorization, which he thought I particularly had in mind.

I told them that I had not in mind to oppose the agreement which had finally been made also with my consent, but wished to point out my thoughts.

I then took up the matter of P. J. possibly exporting outside the British Empire, and informed them of my advice to Stopford as referred in my letter of November 14th. I had taken the matter up with Titangesellschaft who were willing to permit the export if it could not be avoided, against B.T.P. buying the corresponding quantities from Titangesellschaft at the sales price to Pinchin Johnson. They emphasized, however, that they would prefer to be in direct contact with P.J. and deliver their goods direct to their factories. (I arranged afterwards with Stopford that he should write to Borgwardt and suggest that they together see Pinchin Johnson on one of Mr. Borgwardt's visits to London).

Thompson considered that this should be looked upon from a broader point of view and it should be foreseen that similar cases would repeatedly come up in the future.

I told them that I wished the Board to express the opinion that developments of this kind must be limited, as it

would only act to break down the frontiers of the markets and disturb the confidence which has been established between the associated companies. It was quite natural that the Germans did not look with favour on these happenings. They had given their permission to Lever Bros.—now came Pinchin Johnson—and if further developments of this sort should take place they must be prepared that T.G. would act in a similar way and they could easily bridge the duty.

Thompson said that this had already been done once, and took up the old story of Pieter Schoen and Zoon selling a paste of TiO2 or Extra T to an English artificial silk manufacturer.

I told them that this was not a comparable case. First of all this matter was not under Titangesellschaft's control and had nothing to do with them. It was I who had that matter in-hand as it was Titan Company Inc. who was selling the material. It had been sold to a paint manufacturer who made a specific kind of paste which was sold to an English company associated with a Dutch firm and at a price of £8.0.0 more than the English price. We had investigated the matter and it was a bona fide manufactured product which also was evident from the price difference.

Thompson said that Pinchin Johnson wanted to use the same material and the same formulaes in all their factories, and the same price had to be applied.

L. B. Robinson told him that in the Lithopone agreements with Pinchin Johnson (where also the Germans in some way are in) different prices were applied for the different markets and Pinchin Johnson had perfectly accepted this.

Stopford told me afterwards that it was the first time he had heard about P.J. arguing that they wanted the same material through all their factories.

I emphasized again that this development must be limited and that the utmost must be done to have Pinchin Johnson taking the German material for their factories outside the British Empire.

This was agreed to.

After the meeting, Stopford fully appreciated the situation and promised to do whatever he could. I told him that, in addition to the inconvenience mentioned by me, there was another point which I had overlooked, namely that, due to the quota arrangements with Blumenfeld, T.G. would also be hurt by having the possible increase of P.J.'s requirements on their quota.

Next morning I telephoned to Thompson and, as he had no time to see me before I left London, I emphasized the matter once more over the telephone. He told me that he was very sorry to have caused me so much trouble and wished to assure me that no further developments on this line would take place. With regard to his overstepping his authorisation, he told me that Tasker and Barley all the time had been kept informed of his negotiations with P.J. and approved of them (sic!) Please compare this with my letter of November 14th and the above. I did not tell him that Tasker had kept me informed constantly of what had come to him.

This is rather a long letter, but I thought you might be interested in the detailed description of what has been going on. I trust you will keep it confidential.

As to your question of what is the *basic* price of Titanium pigments, it is understood that this is the price for quantities below two tons.

The question as to whether it is *our* published price or competitors' has been somewhat differently answered. I

have considered it to be our price and believe this is the case also with regard to the other members of the Board. Thompson is of this opinion, pointing out that there is no mention in the agreement with Pinchin Johnson of competitors' prices at all. Stopford considers it to be the generally published price, which is published in the journals where only the price for quantities below two tons is given, and that it is not likely that our price will ever be above competitors' prices during the three years period of the agreement. In the negotiations with Pinchin Johnson there has verbally been referred to our schedule prices and it has, according to Thompson, been purposely avoided to mention possible competitors' prices in order not to bring up the possibility of a best customer clause.

A change of the schedule for the larger quantities would not form a legal basis for Pinchin Johnson to claim a change in their price. If such changes, however, should be of an extraordinary nature, P.J. might reasonably expect and claim consideration of this as to the price to them.

The falling clause in the agreement with Pinchin Johnson is not in the nature of a best customer clause and B.T.P. consider themselves free to make special arrangements, without this influencing the price to Pinchin J.

I am glad to note from your letter of November 29th that your thoughts are entirely in line with my own as to the danger of making special prices because of their possible effect on prices not only in England but on our general world price structure.

Our English friends are though primarily interested in B.T.P. and a policy taking into consideration the price structure outside their territory is with a few of them rather a remote matter and arguments on this basis not of

much strength. This is particularly the case with our friend Mr. Thompson, but I think some of them take a somewhat wider view and realise that one day the position may be different.

I refer in this matter to our conversation during your visit here.

I will, though, say that the increase in sales by B.T.P. has been very well maintained in December and January,—be it due to the lower prices or the prosperity in England.

With regard to deliveries outside the British Empire, Mr. Stopford has informed Mr. Thompson in connection with the Pinchin Johnson matter, that there will be no commission to R. W. Greeff & Co.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 603

Letterhead of
TITAN COMPANY, INC.

No. 203.
GJ/AK

Paris, October 16th 1936.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

Re B. T. P.

On my visit to London for the meeting of September 25th, Thompson informed me of his letter to you of August 18th.

I told Thompson that I had for a long time been in favour of making a quota arrangement with Laporte, but had not forced the matter in view of Thompson's very strongly expressed opinion against it and his conviction of our strong position also with regard to sales ability and position with the customers. I had no reason to think that much could be won by waiting. It was not to be expected that a good manufacturing organization like Laporte's, with Blumenfeld's methods and experience available, should not be able to make a product equal to ours and, at times, if luck was in their way, even better. On the other hand, I would not let myself be influenced by Laporte at the present moment being in advance with regard to quality, as I would be much disappointed if that should prove to be more than of a passing nature.

Exhibit 603

I had reasoned in this matter in a similar way to what we had done in Titangesellschaft when we made arrangements with Aussig.

There has been a good deal of "to and from" in this matter; Tasker and Barley have been carrying on conversations with O'Brien since autumn last year, with a view of establishing a closer relationship, and before I left for U. S. A. you will remember Barley suggested we should try an arrangement on the basis of a merger. This was not approved by us and on my visit to London Barley seemed to be a little sore because of this.

The general attitude of the Board in July was rather reserved as to an arrangement with National Titanium Pigm. Co. and Thompson as you will remember very strong in his expressions against a quota arrangement. It was, though, agreed to continue the conversations, but no exchange of figures.

As many things had to be dealt with at the meeting and it was shortly before the holidays, I did not consider it opportune to take up an extensive discussion, but had a talk with Tasker afterwards concerning the lines on which the conversations should be carried on, and Tasker was quite interested and wished to keep in touch with me during my stay in Bad Gastein, with regard to further developments.

On my return, I found that Tasker had done nothing, because, as he said, he had too little to talk about without being able to exchange figures. I further found that Barley thought Leporte would be definitely against a quota arrangements, whereas Tasker considered them to be interested in such an arrangement.

You will note from the Minutes of the Board Meeting of September 25th that the matter will be pursued now and

figures permitted exchanged. I pointed out that Laporte must already have a good idea of these figures, as Stopford had fairly accurately given these at the hearings in Australia.

This letter gives rather details, but I thought you might be interested in view of the other letters I am sending you in this matter.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 604

Letterhead of

TITAN COMPANY, INC.

No. 199.

Paris, October 16th 1936.

GJ/AK

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

I enclose two letters to Mr. Tasker of October 14th, re negotiations with Laporte, which speak for themselves, and should much appreciate New York's opinion from National Lead Company's point of view, as interested in all the Titanium companies, and from Titanium Pigment Co.'s point of view, as cooperating with the Titan Company Inc. and its associates—if they differ.

I should also appreciate to hear from you as to the developments of the negotiations with Krebs-Du Pont in which you know I am much interested from the point of view of the associated companies as well as the personal interest to me.

With kindest regards,

Yours very truly,

G. JEBSEN

Exhibit 604

Paris, October 14th 1936.

GJ/AK

H. S. Tasker Esq.
London House
3 New London Street
London E.C.3.

Dear Tasker,

Many thanks for your letter of October 12th.

Re Laporte.

Referring to our conversation on my last visit to London, I presume it is unnecessary to state the reasons why I think an arrangement with Laporte regarding the marketing of Titanium pigments on a price and quota basis would be advantageous to both parties.

I suggested in the last Board Meeting, that it should also be explored to combine this with a limitation of the capacity of their plant against an obligation on our part to deliver material to Leporte at a price which leaves them a profit. This is based on our production cost being so much lower, that a sale of our product leaves a profit sufficient to be divided between the companies, giving us a manufacturing profit and them about the same profit as they have from their present production. This is presumably the case. I need not repeat the advantages this presents to both companies.

Whether Laporte will accept this, depends on the interest they have to cash in on their present position. As you know, Titangesellschaft has such an arrangement

Exhibit 604

with Aussig, which however is bound only to sell in a limited territory.

I mentioned to you that such an arrangement without certain safeguarding clauses would aid Laporte to export outside the British Empire to the extent they are supplied by British Titan Products Co.—a situation which might become very unpleasant and unfair towards B. T. P.'s associates. I promised to discuss this with our associated companies. I have not had an opportunity to do this fully. I have had an occasional conversation with Mr. Borgwardt regarding this, who was interested in the idea of limiting Laporte's capacity and would consider nearer which safeguarding clauses are necessary from T.G.'s point of view.

As regards patent policy, the license agreement between Titan Co. Inc. and B. T. P. provides that such can only take place on specific conditions involving a division of sales territory and free exchange of existing and future patents including full exchange of manufacturing experience. Any deviation from this needs the consent of Titan Company, Inc., which again means also the consent of various of its associated companies.

We mentioned three alternatives:

1) Exchange of licenses and technical experience as just mentioned.

This we excluded from consideration at present, for reasons unnecessary to mention.

2) Mutual exchange of licenses on present and future patents, without exchange of technical experience.

This we considered worth while to explore further.

We thought it only feasible in case it can be made with Laporte for the whole world, i.e. Laporte restrict themselves to sales within B. T. P.'s territory and give the patent rights outside this territory to B. T. P. which will have to turn them over to Titan Company Inc., which in turn will license their licensees. Within B. T. P.'s territory the exchange of licenses will be mutual, presumably exclusive, with the exception of the grantor's right and including part in the patent right B. T. P. receive from Titan Company Inc. and associates.

Here enters the question of the arrangements between Laporte and the Blumenfeld group, of which we have only a confusing or rather contradictory information.

3) Mutual exchange of licenses under existing patents.

This had, at the time we discussed this matter, apparently little interest. We had in mind only Laporte's patents re the use of gum-arabic as being possibly of interest to us,—and presumably doubtful interest,—and, as our main patents have expired, I could not at the moment remember any patents, which might particularly interest Laporte.

Stopford mentioned here in Paris that he thought Titan Company Inc. and its other associated companies should have no objection to such an arrangement as it would not alter the present position.

I have reserved my opinion on this, as the question is rather involved.

From B. T. P.'s point of view it should be remembered that if such an arrangement is made it may represent an obstacle against an arrangement with Blumenfeld on the lines under 2) and 3), which are of more interest.

This cannot be judged before we know their arrangement, if any positive arrangement exists.

Under these circumstances, it looks to me that the conversations with Laporte should first of all be carried on the lines of a pure and simple price and quota arrangement, but letting out a feeler during the conversations as to Laporte's attitude to an arrangement involving a delivery obligation on B. T. P.'s part, with the obligation of Laporte not to extend their capacity beyond its present capacity (to be defined), making the reservation, if they react favourably, that this matter involves B. T. P.'s associated companies if Laporte will continue their previously mentioned policy of having a position in the countries outside B. T. P.'s territory.

As you will see, Laporte's attitude may again hinge upon their arrangements with Blumenfeld.

I believe we were in agreement that a price and quota arrangement should include an obligation for Laporte as regards export, not to sell in the countries in question at lower prices than those of B. T. P.'s associated companies. Whether the associated companies can or will cooperate with Laporte in this manner, I can not tell, as also this question is involved, for two reasons:

Exhibit 604

1) We have our convention with Blumenfeld and a cooperation on these lines with Laporte may be incompatible with his arrangements. If so, however, it probably means that Laporte is claiming a position in Blumenfeld's countries to which it has no right.

2) Our sales policy may make it impossible to divulge to Laporte our prices.

As you know, we adjust our prices somewhat, according to the consumers and their use of our products, in order to develop new consumption, and this requires sales organizations with tact and discretion. Our experience with Blumenfeld sales people has not been encouraging in this respect.

I have tried above to cover the main points of this matter as they appear at the present stage. It is rather involved and, as negotiations proceed, new points may develop, so I much appreciate your suggestion to keep me closely informed about developments.

I am sending a copy of this to Mr. Beschorman, asking his opinion regarding the various points mentioned.

With kindest regards,

Yours sincerely,

sign. G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 604

Paris, October 14th 1936.

GJ/AK .

CONFIDENTIAL

H. S. Tasker Esq.
London House
3 New London Street
London E.C.3.

Dear Tasker,

In addition to my other letter of to-day, I beg to mention separately a matter which may become important.

As I. C. I. is involved, I agree with Stopford that it is better not to let them know of it at the present stage.

In our last meeting of the International Technical Sales Committee, Dr. Raspe informed us of some interesting results of laboratory work with Titanium Chloride. He had been able to produce a good white pigment from this, with a tinting strength of 2000 as compared with 1400-1500 from sulphate solutions in the laboratory and 1300 in the factory.

Dr. Raspe put this forward as a goal we may aim at with regard to quality. It is most probable that a factory production will not give such high figures, but many experiences indicate that a TiO_2 pigment produced from a chloride process may prove to have advantages as to tinting strength and colour.

This has in so far a bearing on the Laporte-Blumenfeld negotiations as Aussig of the Blumenfeld group in 1928 obtained some patents of which such process may be dependent. Dir. Mayer, Aussig, was very enthusiastic

once in this direction. However, in the later years no indication has come forward that this has been continued.

Dr. Raspe (also Mr. Ravnestad) will investigate the patent question and would not express any definite opinion yet.

Our developments may result in patents to be exchanged against Blumenfeld's, and, so far, the ultimate position may not be different from an arrangement on the lines under 2) in my letter.

I. C. I. comes into this as a producer of chlorine, which it has difficulties to dispose of.

The possibility of a chlorine process for the production of TiO2 in Billingham has been discussed between Stopford and I. C. I. and, as the later is very desirous of finding an outlet for chlorine, they have offered a cooperation with B. T. B. to this purpose.

In view of this, I agree with Stopford, that B. T. P. has no interest to inform I. C. I. of the possibilities above mentioned, as it may influence B. T. P.'s position unfavourably.

Yours sincerely,

sign. G. JEBSEN

Copy to Mr. Beschorman.

Exhibit 605

Letterhead of

TITAN COMPANY, INC.

No. 7
GJ/AK

Paris, March 25th 1937.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

* * * * * * * * *

[PAGES 1, 2, 3 AND FIRST PART OF PAGE 4 OMITTED]

I mentioned above Laporte's competition in Sweden. They have also been trying to come into the market in Norway, Belgium and Holland, and have only succeeded in a few cases where they have cut our prices badly and we would not follow.

Laporte is working, as you know, under a license from Blumenfeld. They made composite pigments before this. According to our convention agreements with Blumenfeld, he cannot of course give a license to firms competing in our countries and Blumenfeld informed me last year that Laporte are under the obligation not to export TiO_2 but he was prevented from restricting them as to the composite pigments. Nevertheless, Laporte has offered TiO_2 pigment in Holland and the Scandinavian countries, besides his composite pigments.

Exhibit 605

On our information to Blumenfeld regarding this, he has two or three times protested towards Laporte. Shortly before my trip to Norway he told me that no more export would take place, but on my return to our office the same day I was informed of a new incident with a small firm in Holland. Informing Blumenfeld, he told me again that he would protest, but I suggested to him to take more drastic steps.

Blumenfeld has also been very much interested in having Laporte and B.T.P. make a quota arrangement besides the present price arrangement, in order to open up the way for an exchange of licenses with no technical cooperation on the lines mentioned to you in previous correspondence.

In a meeting in London between Laporte, Tasker, Barley and myself, Weber of Laporte told us that they considered a quota to them of 30%, which the B.T.P. had declared willing to accept, not to be sufficient when they also had to give up any activities in U.S.A. (they had evidently got appetite after the arrangement for Canada.) I told Blumenfeld about this and that we could not make an arrangement acknowledging a nuisance value of Laporte as regards U.S.A., to which he agreed.

On my arrival in London, Blumenfeld called on me there, informing he that he had seen Weber the day before and demanded immediate stoppage of Laporte's export and that *he* would make the deliveries under any contracts Laporte may have threatening them with legal procedures for damages, and withdrawal of the license. He further said that Weber would see Tasker the following week and put forward Laporte's desiderata re a quota. Weber has however not given a sign of life towards Tasker.

Last week Mr. Borgwardt informed me that there had been an export to Japan from England of 33 tons of TiO_2

in 1936 and 46 tons in Jar .ry this year. It does not seem that this can be anything but Laporte's material.

I do not know what repercussions this situation will have on the question of the transfer of Blumenfeld's Canadian patents to the Canadian Titanium Products Ltd. through Laporte, but would find it natural that Blumenfeld oppose a transfer until the above matter is settled.

I shall keep you informed as matters develop.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S.—Sales in January-February have been very good, showing an increase of 35% as an average of all our countries. The British Empire, however, has only shown an increase of 1½%, apparently for no particularly reason; it has probably been the extremely bad weather and last year these months were extraordinarily good.

The purchases are evidently partly due to a fear of increased prices. This is no doubt the case in the Scandinavian countries. In France where the increase is 47%, the fear of a further devaluation of the Franc may also have had an influence.

Exhibit 606

Letterhead of

TITAN COMPANY, INC.

No. 9.

Paris, March 30th 1937.

GJ/AK

William C. Bechorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U.S.A.

Dear Mr. Beschorman,

Referring to my letter of March 25th, I beg to inform you that last Saturday Mr. Blumenfeld has received from Laporte a letter acknowledging their obligations not to export TiO2 pigment, and giving the figures of their obligations outside the British Empire as regards future deliveries, which Blumenfeld has insisted upon delivering himself or letting us do so.

Apart from Japan they are not very important, but still amount to some "pin pricking" into our position. To Japan, however, they have undertaken to deliver not less than 120 tons.

Blumenfeld has, on my request, demanded full information as to the export Laporte have undertaken also hitherto.

It seems from the above that Laporte now will come into line as regards their export to the countries covered by our Convention Agreements with Blumenfeld, i.e. the countries outside the British Empire and U.S.A., and I hope there-

fore that the Canadian Titan Products Ltd. will find Laporte able to carry out their agreement with them.

The moral standing of Laporte can evidently not be very high.

With kind regards

G. JEBSEN

Exhibit 607

November 26, 1940.

VIA AIR MAIL

Mr. Charles Stopford
British Titan Products Co., Ltd.
Burlington House
Yarm Road, Eaglescliffe
Stockton-on-Tees, England.

Dear Mr. Stopford:

This will confirm my cable of November 20th, copy of which is attached, and your reply which reads:

> "YOUR CABLE 20TH INFORMATION ON PROCESS INSUFFICIENT TO DECIDE BTPS INTEREST IN ILMENITE PATENT PLEASE SEND DETAILS AIRMAIL".

I have answered this by cable as per copy enclosed. These telegrams speak for themselves and I may add only the following.

We have received a letter from Mr. Ravnestad informing us that he has applied for a patent on March 16th in Norway, and suggesting postponement of applications in other countries in view of the war conditions. However, this involves a considerable risk of losing not only priority rights but all rights to patents in other countries and practically a certainty in this respect as regards the United States.

Upon investigation Mr. Kaegebehn has found that even during the war the I. G. has been applying for patents in England. In view of this we hope that inventions from occupied countries also can be patented and that the German

authorities will permit this, particularly as the invention does not concern a war material.

We have requested Mr. Ravnestad to have Mr. Bryn, patent attorney in Oslo, send to our patent attorney here the necessary papers enabling Titan Company, Inc., to apply in England and Australia, United States, Canada and Brazil.

I can realize that you find the basis on which to make decision somewhat meager but this is due to the war conditions. We are afraid of letting any possible means of obtaining patents untried. Nobody knows what policy will be taken up after the war, concerning inventions made during the war, and it seems thus important to be able to establish proof that we have done our best for the obtainment of patents. We should particularly have in mind the fact that England is still permitting companies in Germany and the occupied areas to apply for patents in England and this may be considered as a basis for rejection of any applications after the war made under some kind of an extension of the period of priority rights.

As regards the invention itself, I only know that further experiments have given sufficient results for Ravnestad to prepare plans for a pilot plant for which I understand he will ask an appropriation of a certain amount of money somewhere between £2,000 and £3,000, and that he reckons to obtain a product with 68% TiO_2. I also understand he has been able to reduce the time for corrosion to seven hours by certain means of which I can only guess. From this it seems reasonable to nourish expectations of the process being economical and thus of quite some importance.

With regard to the countries of the British Empire in which patent applications seem advisable, this will have to be decided from two points of view—

Exhibit 607

1—countries in which titanium pigments are or may be manufactured in quantities of importance

and 2—countries with workable ilmenite deposits provided conditions in these countries are such that industrial operations can be carried out with reasonable skill.

The operation as mentioned are the reduction of ilmenite and corrosion. Of these, I think the reduction of ilmenite will require more skill and better labor than the rest, and I have been wondering whether in countries like Egypt, Ceylon, Travancore, etc., industrial operations as above mentioned can be reasonably and economically carried out. You probably are better informed about this than I am, so please let me know. As to the strength of the patent we may obtain, I believe we can feel fairly safe in view of the originality of the process.

As the situation is, I think you will have to leave to our judgment (when the papers arrive here) the possibilities of the invention from a general technical and economic point of view, and leave it to us to decide for B. T. P. in this respect. However, assuming that we find the invention sufficiently promising to justify the work and expense of applying for patent, it seems to me that B. T. P. can make a decision as to which parts of the British Empire it wishes protection and an exclusive license.

Hoping that you and yours are well, I am with kindest regards,

Yours very truly,

GJ:EH
Enclosures:

C/C—Mr. C. F. Kaegebehn

Exhibit 608

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED.

In reply please quote: CJS/SL/17939

2nd December 1940

[Written at top of page in lead pencil the following:]
CtK

ad Mr. Kaegebehm

Please make a note of this in Patent minutes (useful for later information to Rvstd and Anderson)

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

ILMENITE PATENT

I confirm interchange of cables on this subject, as follows:—

Yours: "REGRET HAVE ONLY INFORMATION
26.11.40 GIVEN YOU PARIS REDUCTION AND
CORROSION WITH PRACTICALLY NO
CONSUMPTION OF CHEMICALS STOP
TITANCO INCORPORATED INTENDS
APPLY COUNTRIES WITH WORKABLE
ILMENITE DEPOSITS PROVIDED

Exhibit 608

CONDITIONS THERE MAKE INDUSTRIAL OPERATIONS FEASIBLE FURTHER POSSIBLE PIGMENT MANUFACTURING COUNTRIES STOP WILL APPRECIATE YOUR RECOMMENDATION COUNTRIES BRITISH EMPIRE ABOVE BASIS AND SPECIFYING THOSE WHERE BTP WISH EXCLUSIVE LICENSE SHARING EXPENSES 50% STOP FE AR DETAILED INFORMATION NOT AVAILABLE IN TIME FOR YOU STOP I TRUST RAVNESTADS MOLBACHS JUDGMENT REGARDING POSSIBILITIES PROVIDED EXPECTED INFORMATION NOT DIFFERENT FROM MY UNDERSTANDING"

Mine: 28.11.40 "RAVNESTADS ILMENITE PATENT STOP IT APPEARS BTP ONLY INTERESTED IN NON EXCLUSIVE LICENCE ON ASSUMPTION PATENT IS OF INTEREST TO ILMENITE PRODUCERS AND NOT TO PIGMENT MANUFACTURER WOULD WELCOME YOUR OPINION IF DIFFERENT STOP POSSIBLE INTERESTED COUNTRIES TRAVANCORE MALAYA AUSTRALIA EGYPT"

Yours: 30.11.40 "IF BTP TAKES EXCLUSIVE LICENSE UNDER RAVNESTADS PATENT BTP CAN HOLD BENEFIT OF USE OF CON-

Exhibit 608

CENTRATED PRODUCT TO ITSELF IN RESPECTIVE COUNTRIES"

P.T.O.

Mine: 2.12.40 "RAVNESTADS PATENT BTP DESIRES EXCLUSIVE LICENCE ENGLAND AUSTRALIA"

I assume from your last cable that your advice to B.T.P. is that they should have an exclusive licence, so that they may control the usage of the concentrated ilmenite in the territory in which they are interested. This is quite a good point and I confirm the information given in my last cable to the effect that B.T.P. would like to have an exclusive licence under the patent in Great Britain and Australia.

I shall be very interested to see a translation of the No[redacted] application as filed as soon as it is available.

With kind regards,

Yours sincerely,

C. J. STOPFORD.

Exhibit 609

Letterhead of

BRITISH TITAN PRODUCTS COMPANY LIMITED

In reply please quote: CJS/SL/18116

11th December 1940

Dr. G. Jebsen,
Titan Company Inc.,
111, Broadway,
New York, N. Y.

Dear Dr. Jebsen,

I have just received your cable reading as follows:—

"FEEL UNDESIRABLE LAPORTE GIVE REPORT TITANIUM PROCESS TO ANY OUTSIDER"

I do not see that there is any action that I can take on this, as I assume that Laporte, like you and ourselves, realise the undesirability of giving a report on the titanium process to any outsider.

Laportes may feel that they have a free hand in the States apart from the Blumenfeld patent position, and that they are entitled to sell their knowledge in the States should an opportunity occur. I feel that this is a matter on which we can hardly interfere, unless we have some counter offer to make or some definite knowledge that an action they contemplate taking is likely to upset the stability of the world market. I have no knowledge of any idea on their part of selling their knowledge in the States, apart from any con-

clusion one may draw from the information I have already sent to you as to their probable agreement to Weber's request for a report on the process.

I have not seen anything of O'Brien since last I wrote to you on this matter and have no arrangement to see him in the near future. No developments have taken place between ourselves and Laporte, apart from an agreement to increase titanium prices by approximately a further 10%, making approximately 20% increase since pre-war.

With kind regards, & best wishes

Yours sincerely,

C. J. STOPFORD

Exhibit 610

Copy to Mr. Garesché

December 18, 1940

Mr. C. J. Stopford
British Titan Products Company Limited
Burlington House, Yarm Road
Eaglescliffe
Stockton-on-Tees
England

Dear Mr. Stopford:

Many thanks for your letter of November 16th with its very interesting information.

We have not heard much of Mr. Weber on this side. The Canadian Titanium Pigments Limited informed Mr. Garesché sometime ago that he was in Canada and they would like the status of our present relations, which was given them and has been supplemented with your latest information. Further, there has been some rumor of an expert having told somebody here in New York that he was in a position to erect and operate a titanium plant, trying to create interest in such a project. The information as you understand is vague.

In view of the remarks in the last paragraph of your letter, Mr. Garesché and I decided to send you the telegram of December 10th, as follow:

> "Feel undesirable Laporte give report titanium process to any outsider."

Of course this represents only a general point of view and it must be left to your judgment whether any initiative in that direction should be taken already now on that basis.

Exhibit 610

I was especially interested in the second last paragraph of your letter and look forward with interest to your further developments on this line. It may be difficult at present to find a well justified basis for the fixation of quotas between B.T.P. and Laporte but I shall be very interested to hear from you in this respect. In view of B.T.P.'s international relations I suggest at any arrangement is made revisable at the end of the war as it is impossible to foresee conditions after that time. The main point is of course the development of good relationship which now seems more likely than before.

With kind regards.

Yours sincerely,

(Signed) G. JEBSEN
G. JEBSEN

VIA AIR MAIL

P.S. In connection with the above I think it is of interest 1) that Titanox-A24 is considered to have a great future in view of its combined qualities of good color and chalking resistance, and further, 2) that N.L.Co. has developed a new C30 pigment with tinting strength 570 and chalking resistance similar to Titanox-A NC. The production cost of these two pigments is not far from the cost of the corresponding ordinary grades.

The new C30 is intended to be announced on January 10th, and until you hear of its announcement, it should be kept secret.

G.J.

Exhibit 611

Letterhead of

TITAN COMPANY, INC.

June 12, 1941

VIA AIR MAIL

Mr. C. J. Stopford
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Dear Mr. Stopford:

Many thanks for your letter of May 27 regarding the quota arrangement with Laporte.

I am sorry to see that you did not reach an agreement regarding the quota, as I think it would be well if something could have been developed with Laporte in this line on a voluntary basis, particularly in view of the existing war risks. Am I right, though, in understanding your second last paragraph so that a quota basis is automatically arranged for through government controlled regulations?

I am in doubt whether a quota arrangement lasting beyond the war period would be to our advantage, if the post war period is to be of any length of time, as it seems to me likely that the technical developments on this side, particularly in regard to pigment qualities, will put B.T.P. in a relatively strong position after the war. Laporte's opportunities for technical developments during the war period are presumably fairly limited.

Exhibit 611

Has there in connection with the quota arrangement been any talk with O'Brien regarding cooperation in case of shortage of war materials or accidents in one or the other factory preventing production? If you are in the position to give information in this respect, we would much appreciate it. If not, we shall have to do without it.

Hoping all is well with you and yours, I am, with kind regards,

Yours sincerely,

Signed: G. JEBSEN

c.c. Mr. H. S. Tasker

GJ:AK

Exhibit 612

COPY

Letterhead of

TITAN COMPANY, INC.

June 24, 1941

VIA AIR MAIL

Mr. H. S. Tasker
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

My dear Tasker:

Many thanks for your letter of May 2 which arrived here on June 2. I have postponed my reply awaiting to see if anything should arrive from Thompson in the matter, which, however, has not been the case.

I do not see how a question of the kind mentioned (quota arrangement with Laporte, rationing of customers) concerns American shareholders interest in any way differently from other shareholders.

Let me take the opportunity to add that we on this side have entire confidence in the Board and the Company's management as well as the protection of the American interests if any such question should come up, in fact, we feel that our partners and our colleagues in the Board will

be particularly careful in this respect under the present circumstances.

We had the visit of W. S. Robinson some days ago, who told us of the Electrolytic Zinc Company's interest in Titanium without adding anything of interest to the useful information you have sent me.

He made, though, incidentally, one little remark which puzzled me—"he had said to Stopford that Stopford should write direct to Sir Colin Fraser." As, however, I already had received Stopford's letter of May 24, I did not consider it worth while to inquire further into the matter.

In this connection, W. S. Robinson causally suggested that Sir Colin contact Rockwell if Electrolytic Zinc is further interest. Rockwell gave a polite answer. However, W. S. thought the matter of no immediate interest in view of present conditions.

It seems to me, though, we should use the time to carefully plan an Australian program.

The Titanium consumption here has been extending very much. There is a shortage of capacity for Titanium pigments now and even with the extensions which are on the way, shortage is expected to continue. These extensions amount to 40 to 50% of the previous capacity.

Many thanks also for your letter of May 28, which I have read with much interest.

With kindest regards to you and yours from both Rockwell and myself,

Yours sincerely

Signed: G. JEBSEN

GJ:RK

Exhibit 613

[Written at top of page in lead pencil the following:]

First Mail in Notes BTP

Recd 9/5/41 Opened by English

First mail already recd and replied 8/19/41

Letterhead of

BRITISH TITAN PRODUCTS CO., LTD.

[Copy—Steamer Mail]

CJS/SL/1940

7th August 1941

PERSONAL

Dr. G. Jebsen
Titan Company Inc.,
111, Broadway,
New York, N.Y.

Dear Dr. Jebsen,

Many thanks for your enquiries as to everybody over here. I am very pleased to be able to say that all our people are in good health and taken as a whole, we have been exceptionally lucky in not having a single casualty amongst any of our people so far, although some have lost near relatives and a couple of workmen have been killed in action.

We were all very pleased when we heard that you had now settled down with your wife and younger children and also hope that you have good news of your olde-st boy.

I was very pleased to receive a letter from Henriksson from Stockholm the other day, and to learn that he is in

good health and apparently carrying on as well as he can under the difficult conditions on the Continent. He only referred vaguely to the other people so I assume that they are all all right.

We hold our Board meetings very much as usual, although at less frequent intervals and with some limitations on the lunch which precedes the meeting. Barley occasionally comes along, although as he is in the Service his attendance is rather irregular. W.S. attended two meetings this year and as you will have gathered from the correspondence which passed between Tasker and you, we were expecting fireworks which did not materialize. Taking it all round, proceedings at the Board meetings have been very much as pre-war, apart from one important difference and that is your absence, which is regretted on many occasions.

P.T.O.

Thompson is doing very little direct work these days. Greeffs have evacuated to a place in the country with about four acres of ground and Thompson's main interest seems to be in gardening, although he does now come up to town for Board meetings, but covers his refreat by having a car waiting for him. I had quite a breeze with him recently, when he felt seriously offended that he had not been consulted in advance on some discussions with N.T.P. This was at a time when telephone communication with his particular district was very difficult and it seemed impossible to get him to appreciate that I had not the time to go digging him out in the country every time a point came up for discussion. However, that was all settled fairly quickly and we are again the best of friends.

Exhibit 613

Barber is handling practically all Greeffs matters in connection with titanium, which from their point of view are rather easier than usual, owing to the operation of rationing schemes.

Discussions with Laporte have been held up for some while owing to the serious illness of Wait, but we have reached agreement in principle for an over-all quota of 20.1% to N.T.P. for the duration of the war. We did try to get them to agree to a quota for a set period of years, in which case we would probably have conceded a rather better figure to them, but O'Brien refused point-blank to consider any quota other than one for the duration.

Details of the method of control of the quota and the operation of it have not been completed as yet owing to the absence of Wait. We have drafted the terms and conditions attaching to it as we consider they should agree and are waiting for their comments. I will let you have full details of the whole arrangement as soon as we have reached agreement with them. The important point as to the method of adjustment for over-delivery has been agreed on the basis that the party which over-delivers will purchase from the other party a quantity necessary to adjust the quota at the 100 ton price-ruling at the end of the period covered by the adjustment less 5%.

In the works we have naturally had a rather difficult time with the change-over in the type of ore used, but considering that the plant was not laid out for using Indian ore, I consider that the works people have done exceedingly well. Fortunately, we have not lost many of our technical staff, although earlier on we seconded New for special work and Carter is a member of H.M.Forces.

Exhibit 613

We have been having a comparatively quiet time since the Germans started the Russian campaign and at present I have got my children home from school for the summer holidays. I think I told you previously that I moved them last year to a school up in Teesdale near Barnard Castle, where we feel that they are as safe as they can be, although one takes the risk of stray bombs anywhere.

I still have to make frequent visits to London and whilst in parts it is a depressing sight, everything is going on very much as usual there.

I think I have given you all the news, which I can and with best wishes to Mrs. Jebsen and yourself,

I remain,

Yours sincerely,

C. J. STOPFORD

Exhibit 614

TITAN COMPANY, INC.
111 Broadway
New York, N. Y.

August 19, 1941
VIA AIR MAIL
PERSONAL

Mr. C. J. Stopford
British Titan Products Co. Ltd.
Burlington House
Yarm Road
Eaglescliffe
Stockton-on-Tees, England

Dear Mr. Stopford:

I am very glad to have received your letter of August 7 with the good news that you and your family and all your people are in good health and that you all have come through the ordeal so far relatively well. I have read with much interest what you tell me about the Board meetings. Please remember me to all with my best wishes.

The consumption of Titanium pigments on this side has developed extremely well and production is considerably behind high for the time being.

I do not regret that the quota agreement with Laporte does not exceed the duration of the war as it seems to me that Laporte will not have the same access to technical developments as B. T. P. will get from here. There may, of course, however, be considerations due to conditions in Great Britain unknown to me, and of course 80% to B. T. P. is quite a satisfactory share as long as we are the

only two on the market. We do not know, however, what may develop after the war on new competition if conditions should be similar to the last postwar period.

I am glad to note that you have come well over the difficulties with regard to change of ore. On this side, as you know, they are preparing for using ore from the Adirondacks. The type, as you know, is similar to the Norwegian ore, and they are now expecting no difficulty in using this as regards quality—rather certain advantages. This is to a great extent due to the addition of antimony oxide in small quantities. This addition is extensively used now in production here.

I much appreciate your kind sympathy with regard to my family. We are getting on well, particularly the two younger boys. My eldest boy was denied permission to leave Norway and then went over the frontier to Sweden without permission in the middle of May with the idea of getting over here via Russia. He was, however, too late and has got stuck in Sweden at the present moment, hoping to be able to get out somehow. He has been staying with Andersen in Stockholm waiting an opportunity to get out which, however, seems to be very difficult, particularly as communication between Sweden and England is very scarce.

I had some letters from Henrikssen from Stockholm which was the first direct news from him since last summer. He is now back in Paris. I understand our people there were in good health, but Gilbert's younger son had not yet returned. Our people in Norway and Belgium are in good health.

With kindest regards.

Yours very truly,

GJ/RK

Signed: G. JEBSEN

Exhibit 615

Letterhead of

TITAN CO. A/S

GJ/AK

Paris, October 13th 1928.

Evans McCarty Esq.
Vice-President
National Lead Company
111 Broadway
New-York City, U.S.A.

Dear Mr. McCarty,

Many thanks for your favour of October 4th with enclosed laboratory reports and press clippings.

I have written to R. W. Greeff & Co. to secure a sample of the Barium Titanate made by McArthur Erwin, in order to have the durability tests made with this material, which we talked about.

If you are able to spare some of the material you have got, I shall appreciate to have a sample sent to Titan Co. A/S Fredriksstad for some panel tests.

With regard to our position in Japan, the I.G. has their own company representing them, by the name of DOITSU SENRYO GOMEI KAISHA, TOKYO.

The Titan Co has been selling to the Fuji Paint and Varnish Manufacturing Co., which has been working quite energetically with titanium on the basis of a preference price from us.

Outside of this we have been selling a little to Japan through R. W. Greeff & Co.

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The Fuji Paint & Varnish Manufacturing Co. has been trying to obtain a definite arrangement with us, nominating them as sole purchaser for Japan, but we had put the question off, awaiting developments as we wanted to see how the Fuji Co. developped the market.

When the I.G. took over Japan, the Fuji Co. has made considerable efforts and even tried in an unofficial way through the Japanese Embassy, to influence the I.G. in their favour, at the same time holding back any new purchases.

The best way to deal with the matter was left to Doitsu Senryo Gomei Kaisha, with the indication that an arrangement by which the Doitsu kept themselves free to sell but giving the Fuji Co. a preference price, seemed to be the most advantageous arrangement.

A few days ago the I.G. has sent me the result of the negociations with Fuji, represented in the draft of an agreement giving this firm the sole right, with the reservation that in the case the Doitsu received any demands they should take up the matter with the Fuji as to the best way to handle such cases.

It seems from this that the Fuji Co. has quite an important position in the Japanese paint market.

The arrangement is made for a few years and the Fuji Co shall buy a certain minimum quantity which is not fixed yet.

I have pointed out to the I. G. the disadvantages of giving a paint maker the representation, but have considered that the I.G.'s representatives in Japan will be the best judges of the Japanese market and the importance of the Fuji.

The Titan Co.'s connection with Fuji has been quite saristactory as to payment and correspondence. The start

of the connection was made through the personal visit of a Japanese in Fredriksstad, 4 or 5 years ago.

The deliveries have been practically only Extra X. The amount sold in 1926 and 1927 was comparatively small, but promising. I do not have a specified statistic of our sales to Japan at hand, but from remembrance I think our deliveries in 1927 were more than 50 tons of Extra X. The Fuji Co. wrote us at that time that our high price kept the development of sales considerably back.

Yours very truly,

G. JEBSEN

Exhibit 616

Letterhead of
TITAN CO. A/S

GJ/HS.

Paris, October 18th. 1928.
Dr. G. Jebsen,
c/o Sté Industrielle du Titane,
26 Rue de la Pépinière, Paris 8e.

Evans McCarty Esq.,
Vice-President,
National Lead Co.,
111 Broadway,
New York City, N.Y., U.S.A.

Dear Mr. McCarty:

RE : SALES TO JAPAN.

Referring to my letter of the 13th. instant I beg to correct the data regarding our sales to Japan, which shall be:

	1926	1927	1928 up to 15/10.
Extra X	28 t.	100.5 t.	4 t.
St. X	0	34 t.	3.5 t.

Of the above deliveries in 1927 the Fuji Paint and Varnish Mfg. Co. took 80 tons of Extra "X" and 30 tons of Standard "X". In 1928 they have taken nothing.

Yours very truly

G. JEBSEN

Exhibit 617

Letterhead of

TITAN COMPANY, INC.

No. 56.

GJ/AK Paris, February 15th 1934.

William C. Beschorman Esq.
Executive Vice President
National Lead Company
111 Broadway
New York City, U. S. A.

Dear Mr. Beschorman,

I enclose translation of information from I. G. Farbenindustrie, as follows:

1) Extract of economic report from Soviet-Russia No. 3.

2) Extract from the "Nikkan Kogyo-Shimbun" of December 3rd 1933.

3) Letters from I. G.'s representation in Japan of December 22nd and 23rd.

In connection with these last, I beg to mention that I last autumn suggested to the I. G. to investigate the possibility of a license arrangement for the Japanese market, if possible in connection with the right to import certain quantities for a number of years.

The I. G. had last autumn one of their men going to Japan, who was asked to go nearer into the Titanium situation.

Of course the erection of a license factory in Japan does not appeal very much to the Titangesellschaft, but it

will be better to have a hand in with any serious developments there, than to stand outside. If serious efforts and capital once have been invested, it is likely that more good money will be thrown after the bad one, until a result is achieved. By a license arrangement, if possible in cooperation with the Government, we may prevent serious competition in the other Eastern markets, which, with the very favourable industrial conditions in Japan, might, in the long run, be of considerable importance.

With kindest regards,

Very truly yours,

G. JEBSEN

P.S.—The I.G. Farbenindustrie writes me that some weeks ago their Brazilian representation sent them samples of "rutile", to which the I.G. replied that they were of no interest. Now the Brazilian representation informs them that the Brazilian Government is making efforts for the development of a domestic Titanium Oxide industry on the basis of their "rutile" deposits, and hopes to interest several industrial groups in this.

Probably the "rutile" refers to the Brazilian Ilmenite and Monazite deposits.

Exhibit 617

Translated from German.

I.G. Farbenindustrie Akt.Ges.

Frankfurt (Main) 20

November 30, 1933.

Production of Titanium White in Japan.

Dear Dr. Jebsen,

We beg to enclose two further letters from our Japanese friends. regarding the progress of the preparatory work in Japan for domestic manufacture of Titanium White in this country, which will probably also interest you. According to this information, the Dai Nihon Jinzo Hiryo Kaisha is supposed to appear on the market with Titanium White, already on November 15. Our Japanese representatives will of course immediately try to secure samples and to ascertain at what prices the goods are offered at present. As soon as further particulars are available in this connection, we will let you know.

Yours very truly,

I.G. FARBENINDUSTRIE AKTIENSELLSCHAFT

Exhibit 617

Translated from German.

Doitsu Senryo Gomei Kaisha

Tokyo, Dec. 22nd 1933.

I.G. Farbenindustrie Aktiengesellschaft
Verkauf Chemikalien, Abt. V 3
Frankfurt a.M.

Titanium White No. 123
Production of Titanium White in Japan.

You will have seen from our letter No. 110, of Nov. 4, how important the production efforts of the Dai Nihon Jinzo Hiryo and the Sakai Kagaku Kogyo K.K. are considered to be by the Fuji Toryo and how anxious the latter Company is with regard to the future development of its Titanium White business. Mr. Fujita, Chairman of the Fuji Toryo, called on us on December 18 and inquired whether, under existing conditions, you would be inclined to sell for Japan your process for the manufacture of Titanium White. It is Mr. Fujita's opinion that normal exchange conditions can not be expected to be restored within the next few years. In view of the fact that the devaluation of the Yen, more than two years ago, did not cause a raise of either salaries or prices of domestic products, a fundamental transformation of the entire price level is not to be feared, in his opinion, so that the Japanese industry will continue to enjoy without restrictions the advantages resulting from exchange conditions. Although the Dai Nihon Jinzo Hiryo and the Sakai Kagaku Kogyo K.K., in spite of repeated announcements in the press, have not yet appeared on the market with Titanium White of

their own production, the Fuji Toryo is firmly convinced that the competition of these companies is imminent and will strongly jeopardize our business; besides, this competition may be later supported and protected by duty-measures on the part of the Government. These points are not new, of course, and were repeatedly discussed in our correspondence.

It has been admitted that so long as the present exchange conditions are not considerably improved, the domestic industry can perfectly be in a position to sell its titanium White at such cheap price that this fact alone will be sufficient to kill imports. In view of these facts, Mr. Fujita suggests to build a titanium factory together with you. You would bring in patents and processes, while the capital required for the construction and running of the factory would be invested by the Fuji Toryo. Should this cooperative basis be inconvenient to you, the Fuji Toryo is willing to conclude a license agreement. If, as a matter of principle, you are inclined to accept the proposal of the Fuji Toryo, will you be good enough to answer the following questions:

Construction of a factory for the production of 1200 tons of Titanium White in 300 working days.

1) What is your estimate in gold marks of the costs of factory building, machinery, apparatus and other installations? It is not necessary to provide for a sulphuric acid factory, as H^2SO^4 can be secured here in sufficient quantities and at cheap prices.

2) Dimensions of factory site required. In order that you may form an opinion as to the yield of such a factory, Mr. Fujita mentioned that the annual capacity of

1200 tons would presumably be divided as follows amongst the various Titanium White qualities:

500 tons Titanium Dioxide
300 " Extra T
400 " Standard T

3) What are the production costs in gold Mark, when using your process? in order to facilitate your answer to the question, Mr, Fujita stated the following:

a) Prices of raw materials:

1) Ilmonite sand containing 52% TiO2 = *x* 45.—per ton. A sample of this ilmenite sand which, according to the analysis of Fuji Toryo, contains 52.5% of TiO2, is being forwarded to you under separate cover. Mr. Fujita stated that 50-60.000 tons of this raw material can be secured without difficulty.

2) Sulphuric Acid 50° Bt — *x* 12.50 per ton.

3) Barium Carbonate *x* 255.—per ton.

4) Barium Chloride *x* 200.— per ton.

5) Water: *x* 0.05 per cbm.

b) Costs of electric current = *x* 0.13 per Kwh.

c) Coal: *x* 8.—per ton.

d) Wages: *x* 1.50 per workman and per day (12 hours).

If you are willing to consider a participation on a co-operative basis, will you please let us know in addition your estimate in gold marks of patents and processes, or, if you prefer to conclude a license agreement with Fuji Toryo,

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what compensation in gold marks you would claim for a cession of the process and what current royalty in OM., stating at the same time the number of years during which this royalty would have to be paid.

If you are willing to accept the proposal of Fuji Toryo and consider the above mentioned data insufficient to establish an approximate estimate, we would suggest that you send us a questionnaire in order to enable us to furnish you with any data required.

Awaiting your reply, we are, etc. . . .

DOITSU SENRYO GOMEI KAISHA

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Letterhead of

TITAN CO. A/S

GJ/KL

Fredrikstad, August 8, 1934.

W. C. Beschorman, Esq.,
National Lead Company,
111. Broadway,
New York.

Dear Mr. Beschorman,

I enclose a letter (in translation) of August 1st from I. G. Farbenindustrie Aktiengesellschaft Verkaufsgemeinschaft, Frankfurt a.Main, and my answer, both of which are self-explanatory.

From previous correspondence and conversations, I have understood that you are in favour of an arrangement being made for manufacturing in Japan, in order to prevent the development of a Japanese competition of importance.

The figures given by the Germans regarding the consumption of Lithopone and Zinc Oxide indicate sufficient potential market for a factory.

You will note that my answer to the German proposal is chiefly based on the views developed during the negotiations concerning the British Titan Products Co. Ltd. The Japanese case is, of course, no exact parallel, as we will have no close contact direct with the new Japanese enterprise, nor with the interested Japanese parties, but will have to base ourselves on the I. G. Farbenindustrie's representation in Japan. For this reason I believe it will be better to have Titangesellschaft invest the cash capital, instead of the

National Lead Company or Titan Co. Inc.; or, in view of the present legal conditions, let Titangesellschaft have a chance to take over the holdings acquired by us with cash.

An arrangement by which Titangesellschaft runs the risk and we lend them the money, would, it seems to me, be the best. However, this is a matter which must be considered in close cooperation with the I. G. Farbenindustrie Aktiengesellschaft.

I shall much appreciate your comments to the above, as well as to the two letters.

With kindest regards,

Yours very truly,

G. JEBSEN

P.S. Please send your answer to Paris, where I shall have returned by the 13th or 15th of September.

I look forward with interest to hear from you re your conversation with Mr. Weber-Andreae.

Exhibit 618

Translated from German.

Letter from:
I. G. Farbenindustrie Aktiengesellschaft
Verkaufsgemeinschaft Chemikalien.

Frankfurt (Main) 20
August 1, 1934.

Dr. Jebsen,
Titan Co. A/S,
Fredrikstad, Norway.

Ref. Abt. V Bgt/Kz.

Re. Manufacture of Titanium Oxide in Japan.

Mr. Kemp returned at the end of last week from his trip to Japan. In order to lose no further time, we have at once had a personal conference in Leverkusen with Dr. Kühne and Dr. Raspe re. the situation in Japan.

In the following we beg to give you once more a description of the facts and to make the suggestions in which the conference yesterday resulted. We shall be pleased to have your standpoint in this matter soonest possible.

A copy of this letter we are sending to director Weber-Andreae, New York, likewise with a request to let us know his standpoint. Further we are today writing our agency at Kobe how we are looking on the matter and request their reply, giving them at the same time the advice to avoid any communication with the Japanese interested, for the time being.

Two Japanese factories have for about one year been carrying on research re. the manufacture of Titanium

White and receive subventions from the Government for this work. Both factories are important concerns in good financial positions. One of them manufactures Anorganica (for instance: also zinc oxide, Lithopone and Blanc Fixe); the other makes nitrogen and is on the lookout for a utilization of its sulphuric acid. The fact that these two firms have announced their intention to come on the market with Titanium White has induced our Japanese representation, the Fuji Toryo, which belongs to the large Kuhara concern, to make us the proposal that we should take up the manufacture of Titanium White in Japan together with them.

Those present at the meeting in Leverkusen are all of the opinion that the Japanese some years hence will be in a position to produce Titanium Oxide which is apt to compete with our product.

The manufacturing conditions of the Japanese are relatively favourable. In their own country they have at their disposal an iron sand which contents of Titan (TiO_2) we a short time ago have found to be over 30%, and re. digestion might correspond to the Travancore ore. However, even if the Japanese are under the necessity of covering their requirements from Travancore, they could presumably take the ore from there on approximately the same basis as the Americans. The sulphuric acid is very cheap in Japan. The cost would possibly be about half of that in Leverkusen. The wages—though playing no great part—may be estimated at about 1/3 of the German wages.

It is difficult to foresee how high the amortization will be, as this will materially depend upon the turnover. Fuji Toryo proposes a production of 3 tons Titanium Oxide a

day. The present turnover would only justify a daily production of 1 ton.

We know only very little about the extent of the consumption of white pigments in Japan. Fuji Toryo estimates the Zinc Oxide production to 15,000 tons a year. Lithopone is manufactured in Japan, and according to our estimate likewise 15,000 tons a year, to which would come an import of a few hundred tons. For White Lead we have no figures.

With regard to the market possibilities we should presume that there are considerable possibilities for Titanium White in Japan when sold at lower prices, not only for face powder—which plays a great part in Japan, but also for the important shoe industry (white rubber overshoes) and above all, of course, for paint and enamel. In this connection one will have, though to remember that the latter market cannot in Japan have the same conditions as in other countries, because most of the people there live in wooden houses, which usually are not painted outside or inside.

At any rate the Leverkusen gentlemen believe that the higher amortizations caused by a production on a smaller scale would be compensated by the advantage in the price of sulphuric acid, so that one in Japan car. calculate with a production cost of about Yen 80 to 85 per 100 kilos Titanium Oxide. For his present purchase from us the Fuji Toryo now pays about Yen 165.—per 100 kilos Titanium Oxide.

From the above it appears that we will have to take up the question of a manufacture in Japan, if we wish to prevent the erection there of factories beyond our influence—factories that later on may disturb the markets outside of Japan.

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We foresee the following possibilities for this:

1. A Japanese Titan company should be formed in which the 2 firms which at present are carrying on research should participate, possibly also the Fuji Toryo, who would also act as selling firm for the factory.
2. Considering the fact that up to now the one of the above-mentioned 2 Japanese factories have already brought a small quantity on the market (The quality is, however, very low—the tinting strength is about equal to that of our 50% pigment) whereas the other firm has hitherto achieved no visible results at all, we establish together with the former and Fuji Toryo the Japanese Titan Company, hoping in so doing that the other factory is brought to desist from its plans.
3. We establish together with Fuji Toryo a Japanese Titan Company and suppose that in so doing we keep the 2 Japanese factories from carrying out their plans, inasmuch as their subvention from the Government would then probably be withdrawn.

In all three alternatives we suppose that the selling rights of the Japanese Titan Company should be confined to Japan and its dependent territories. Mr. Kemp finds it expedient even possibly to try to obtain from the Japanese Government a guaranty to this effect with regard to future factories in Japan erected by third parties.

Further we presume the financial construction to be made analogous with that of the Titangesellschaft m.b.H., Leverkusen and that of the British Titan Products Co. following the same principles, so that the Japanese parties

hold 50% and the partners in Titangesellschaft hold the other 50% of the capital.

In this connection it should be taken into consideration that the Titangesellschaft cannot for the time being invest money in foreign enterprises. The substantial part of the participation, however, would be contributed in the form of patent rights, processes and experience. It would possibly be most practical if the rest be paid at first by the National Lead Company with the condition that the Titangesellschaft later take over also this part when the legal conditions so permit.

4. If we cannot arrive at the conclusion to take upon us the risks connected with a Japanese domestic production (Dr. Kühne as well as Dr. Raspe and the undersigned to the left agree in doing this), we would supply one of the combinations of the Japanese firms mentioned under 1 to 3 with our patent rights, processes and experience and in turn secure either a part of the capital of the Japanese Titan factory to be established, or a cash payment once for all and a royalty, or a combination of both.

Essential regarding the decision to be taken is the judgment of the loyalty of the Japanese to the contract. Mr. Kemp takes the standpoint that one may depend upon the Japanese to keep a signed contract also according to the spirit.

He had arrived at this opinion, not only from his own observations, but also from utterances made by our representatives who have been working in Japan for many years. Mr. Kemp also believes that it will be possible—as already indicated above—to obtain in some manner the Japanese Government as a guarantor of agreement, as the Govern-